

# ILLUSTRATED CATALOGUE.

J. STONE & CO.,



**BRASS AND IRON FOUNDERS,  
MANUFACTURERS OF  
PATENT PUMPS, FIRE ENGINES,  
AND ALL APPURTENANCES,  
SIDE SCUTTLES, WATER CLOSETS,  
AND EVERY DESCRIPTION OF  
BRASS AND COPPER WORK FOR SHIPS,  
STEAM FITTINGS FOR ENGINEERS,  
GENERAL BRASS WORK FOR PLUMBERS,  
COPPER NAILS, RIVETS, &c.**

SOLE MANUFACTURERS OF ABOVE  
To Her Majesty's Navy, Dockyards, and Arsenals.

**WORKS AND OFFICES—DEPTFORD, LONDON, S.E.  
City Office—12, Dowgate Hill, E.C.**

\*\* ALL COMMUNICATIONS TO BE ADDRESSED TO DEPTFORD, S.E.

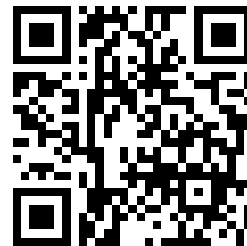
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ILLUSTRATED AND PRINTED BY A. R. DORRINGTON & CO.,  
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GAS FITTERS & PLUMBERS WORK IN GENERAL.

**J. STONE & Co.**  
**Coppersmiths,**  
**BRAZIERS, BRASS FOUNDERS & WORM MAKERS,**  
 MANUFACTURERS,  
*High Street, Deptford.*  
 OFFICE, 12, **LONDON** - DOWGATE HILL,  
 MANUFACTURERS OF EVERY ARTICLE IN COPPER & BRASS FOR  
*Engineers, Sugar Refiners, Merchants, Brewers, Distillers &c.*  
 N.B. OLD METAL BOUGHT OR EXCHANGED.

BRITISH  
 15 JY 70  
 LONDON

**J. STONE & Co.**  
 PUMP MAKERS TO H.M. NAVY.

*(Manufacturers of)* **Portable Fire Engines,** *(Guaranteed to)*  
*For Emigrant's* *Engine & Pumps*  
*pass the Survey.*

*Manufacturers, High Street, Deptford.*  
 (Office 12, **LONDON**, Dowgate Hill.)





RB. 23. 6. 687

**J. STONE & Co**  
**Iron & Brass Founders & Coppersmiths,**  
**MANUFACTURERS OF EVERY DESCRIPTION OF CASTINGS IN**  
**IRON, COPPER, GUN METAL, WHITE & OTHER MIXED METALS**  
**MOST APPROVED BY RAILWAY & OTHER ENGINEERS,**  
**FOR BEARINGS, &c.**  
*High Street, Deptford.*  
**LONDON OFFICE,**  
**12, DOWGATE HILL, E.C.**

**J. STONE & Co**  
**Engineers,**  
**MANUFACTURERS OF SHIP PUMPS,**  
**WATER CLOSETS,**  
**& ALL OTHER ARTICLES OF**  
**METAL WORK FOR SHIP PURPOSES,**  
*of the most approved descriptions.*  
**TO H. M. NAVY,**  
**GENERAL BRASS FOUNDERS & FINISHERS**  
*Wrought Copper, Cast Metal, Nails, Rivets, &c.*  
**OFFICE & WAREHOUSE,**  
**MANUFACTORY**

**DOWNTON PUMP.**  
**DOWNTON WATER CLOSET.**  
**COSSAGE'S IMPROVED PORTABLE & GENERAL PURPOSE PUMP.**  
**SUCTION PLATE.**

*12, Dowgate Hill, London. } Railway Station, Deptford.*

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**J. STONE & CO.,**  
**ENGINEERS,**  
**IRON AND BRASS FOUNDERS,**

**Manufacturers of Ships' Pumps and Fire Engines,**

**BOTH FIXED AND PORTABLE;**

**WATER CLOSETS, SIDE SCUTTLES,**

**AND ALL OTHER ARTICLES IN COPPER AND BRASS, OF THE MOST APPROVED  
DESCRIPTIONS, FOR SHIP PURPOSES,**

**To Her Majesty's Navy and Dockyards,**

**THE PRINCIPAL SHIPBUILDERS ON THE THAMES, &c.**

---

In the following Catalogue we have illustrated the leading Articles of our manufacture only, in the various branches, but we also have many other Patterns, and can readily make from customers' own Moulds, Drawings, or Instructions.

---

**GENERAL BRASS FOUNDERS AND FINISHERS.**

**Manufacturers of all Descriptions of Land Fire Engines and  
Hydraulic Machinery generally.**

**GUN-METAL STEAM COCKS AND FITTINGS FOR BOILERS.**

**BRASS COCKS FOR WATER, BATH FITTINGS, &c.**

No. 1.—**POWERFUL FIRE ENGINE**, as used by the London Fire Brigade (approved by the Board of Works), and supplied by us to Her Majesty's Dockyards, the Honorable Board of Ordnance, and particularly suitable for Barracks, Fire-police, Corporations, Provincial Towns, Docks, Mansions, &c.

This Engine contains all the latest improvements, and can be worked by from eighteen to twenty-four men. It will pass 200 gallons of water per minute, and deliver a powerful jet to reach 130 feet from the nozzle.

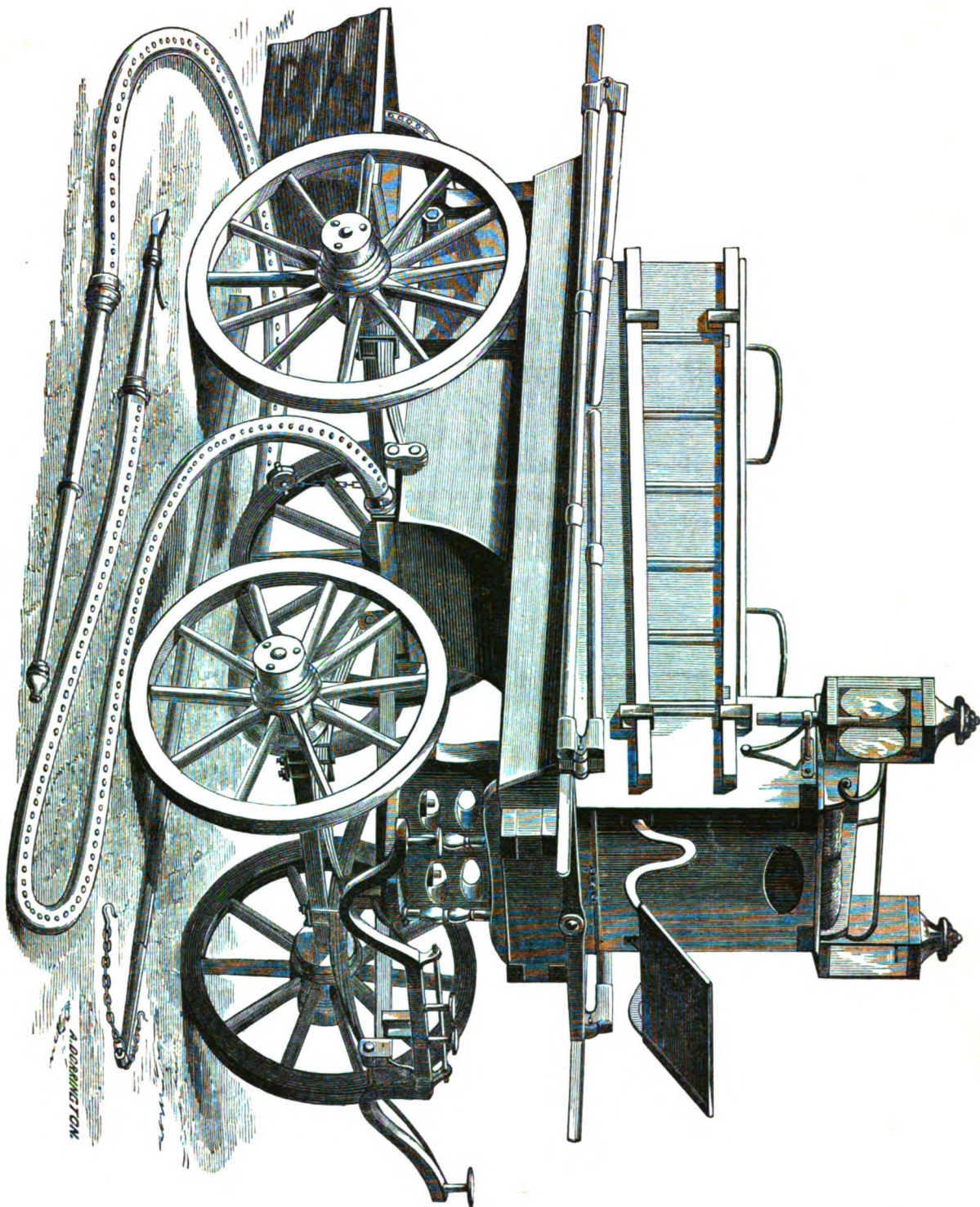
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No. 2.—**SECOND-CLASS FIRE ENGINE**, suited for similar purposes as detailed above, but is not so powerful as No. 1. It will pass 150 gallons of water per minute, and can be worked by from fourteen to twenty men. A powerful jet can be thrown 110 feet from the nozzle.

---



Nos. 1 and 2.



No. 3.—**POWERFUL FIRE ENGINE**, suitable for Barracks, Fire-police, Corporations, Provincial Towns, Docks, Mansions, &c.

This Engine is without springs ; has draw-handle in the place of shafts or pole, and is fitted in oak or copper cistern, with top box, and side pockets for branch pipes and other gear, and is mounted on four strong wood-spoke wheels.

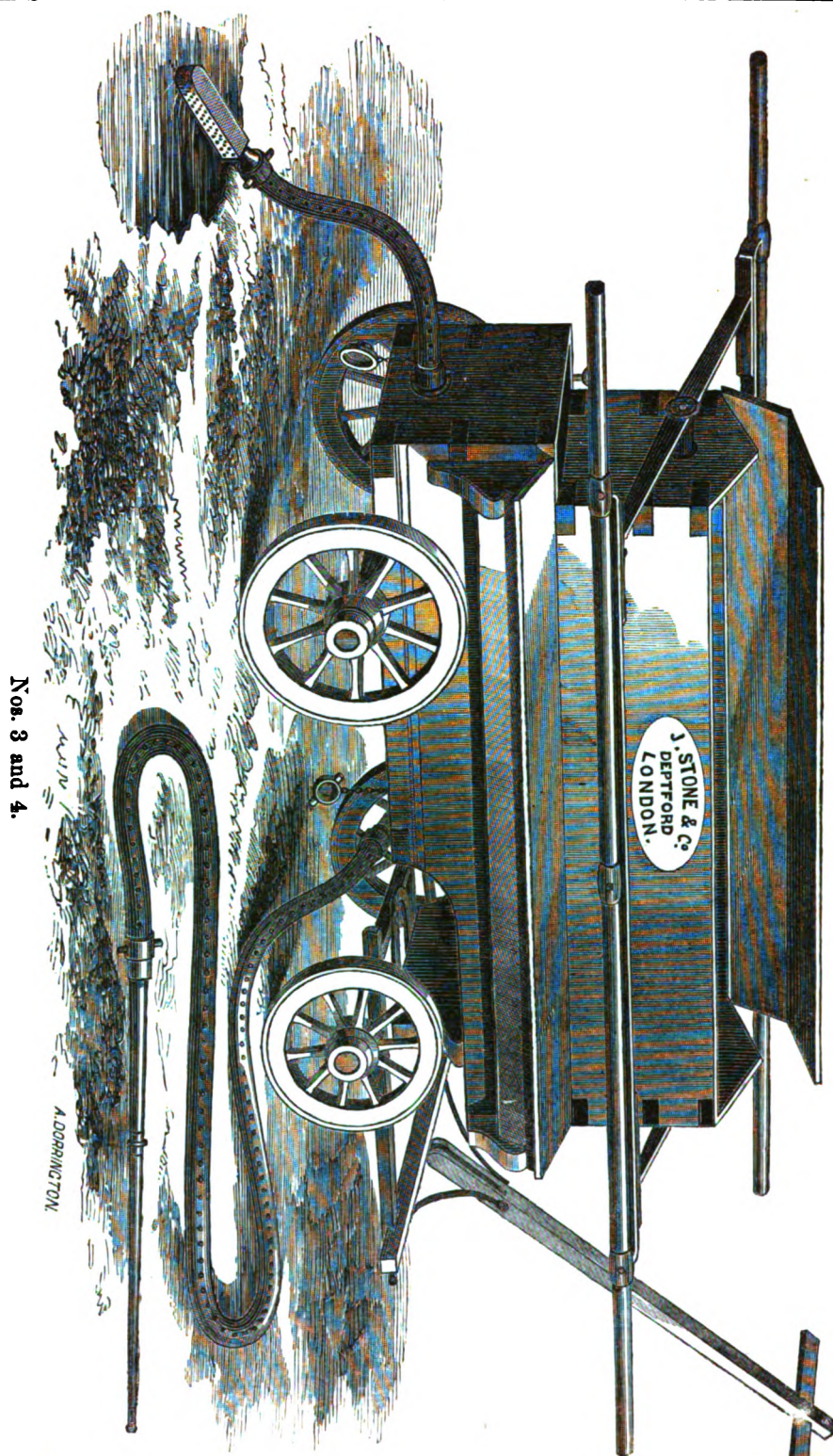
First or large size.

---

No. 4.—**FIRE ENGINE** as above, second size.

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No. 5.—**IMPROVED FIRE ENGINE**, with wrought-iron rivetted cistern, top box, and side pockets for branch pipes and other gear, mounted on four strong iron wheels, with locking carriage and drag-handle complete.

This Engine is fitted with two gun-metal barrels, valve box, valves, &c., so that being constructed entirely of iron and gun-metal, it is admirably adapted for use in hot climates.

First-class, or large size, is equal in power to the London Fire Brigade Engine (No. 1).

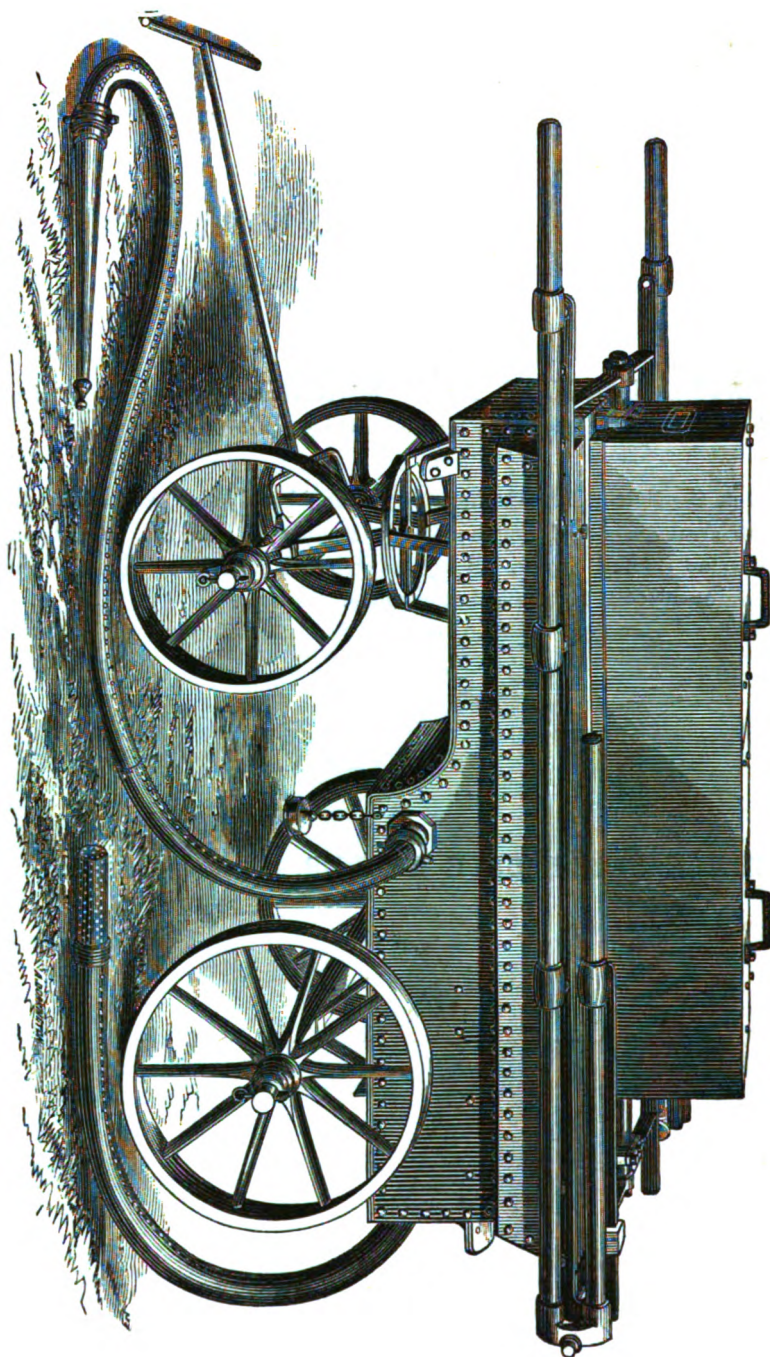
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No. 6.—**SECOND-CLASS**, is equal in power to No. 2.

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Nos. 5 and 6.



**No. 7.—IMPROVED FACTORY FIRE ENGINE**, in wrought-iron rivetted cistern,  
with gun-metal barrels, valve box, valves, &c.

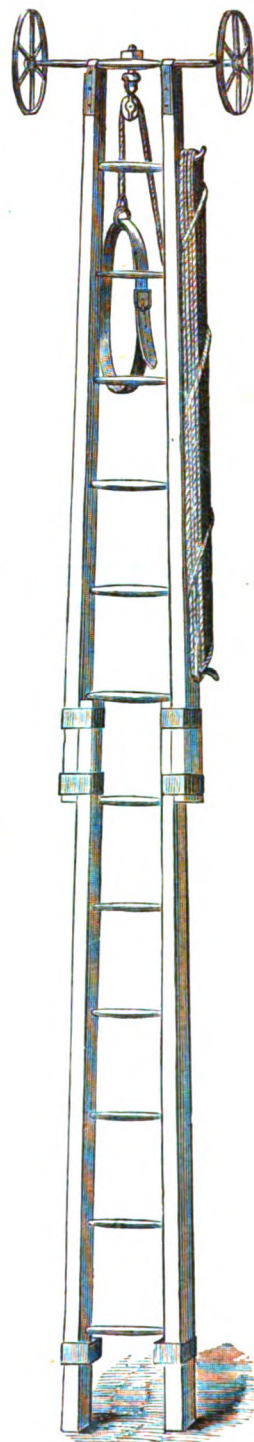
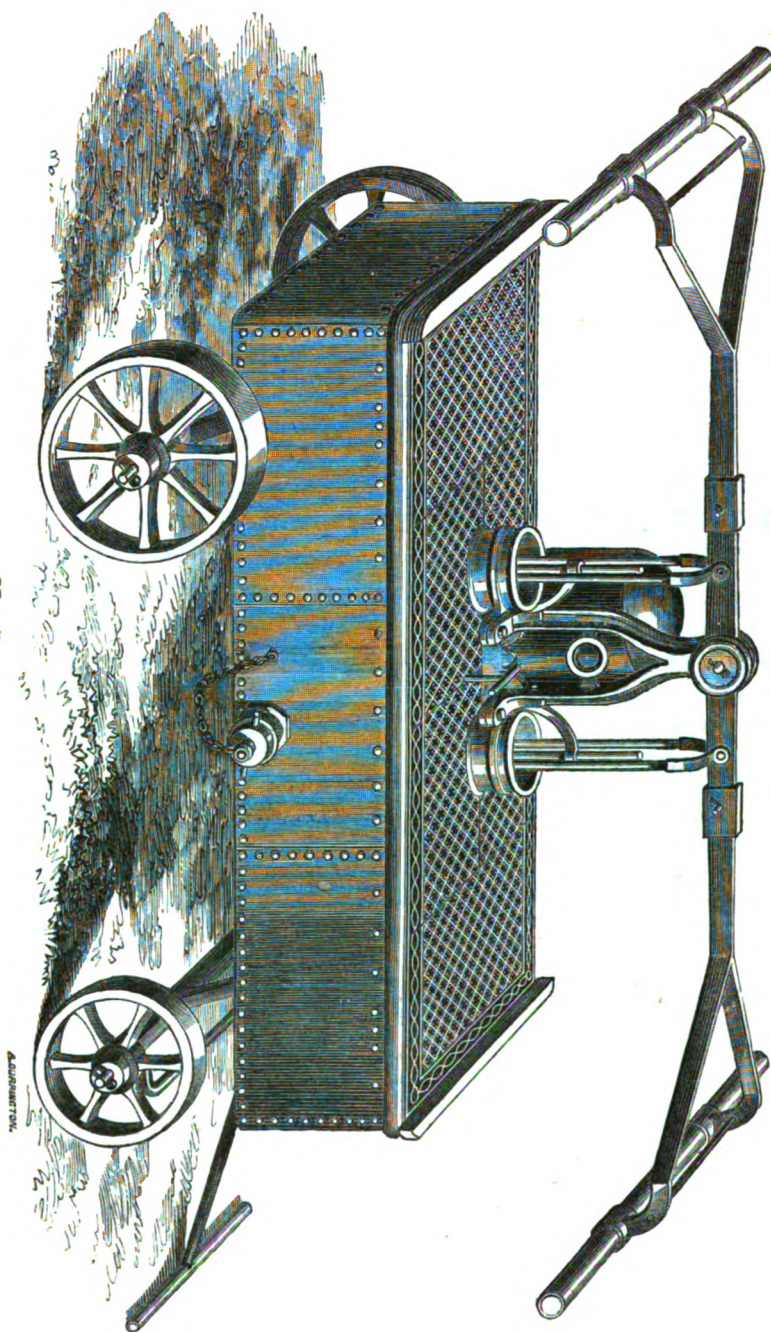
This is a most efficient Fire Engine, and is capable of being worked by few men; but by an arrangement of long handles, a number of men can be put on, if required to develop its full power. Being constructed entirely of iron and gun-metal, it is admirably adapted for use in hot climates.

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**No. 8.—PORTABLE FIRE-ESCAPE LADDER**, with appurtenances.

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No. 7.



No. 8.

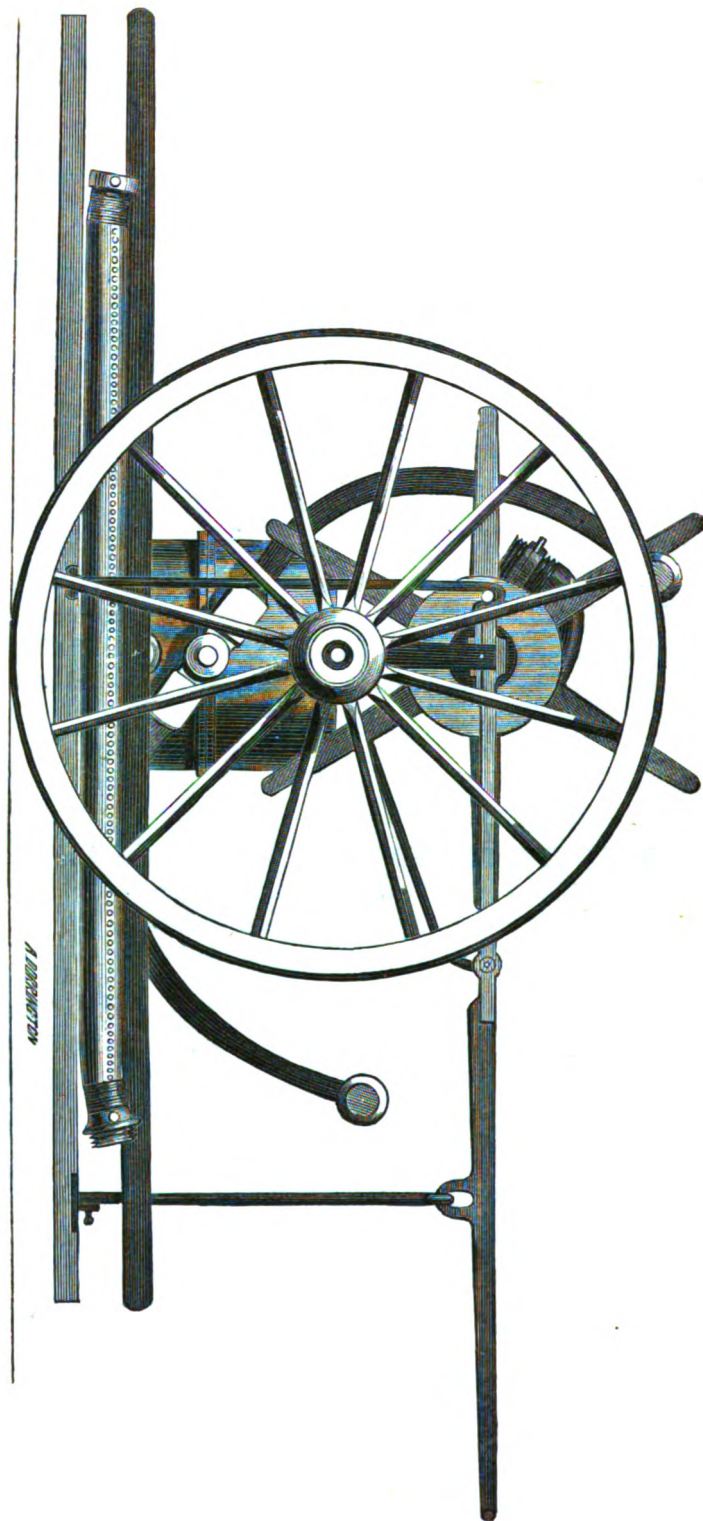
c

**No. 9.—IMPROVED FIRE ENGINE**, mounted on *travelling carriage*, in which carriage are combined the two great desiderata of utility and lightness in the highest degree, as by its means, the Engine, with suction hose, discharge hose, and working gear complete, can readily be transported over ordinary roads by one man. It can be disconnected from the pump in a few seconds, and as readily reconnected, so that no time is lost upon arriving at a fire in getting the Engine to work. This arrangement is a first-rate combination of hose-reel and fire engine carriage, and is much approved of.

---



No. 8.



No. 10.—**IMPROVED FIRE ENGINE**, for four or six men, with two gun-metal barrels, valve box, valves, &c., copper air vessel, mounted on four iron wheels, with galvanized iron rivetted cistern, drag-handle, &c., complete, ... ..

No. 11.—Ditto ditto, with rivetted copper cistern ... ..

No. 12.—Ditto ditto, mounted on four iron wheels, with carriage, but }  
without cistern ... .. }

---

No. 13.—**IMPROVED HOSE REEL**, with box for wrenches, fire branch pipes, jets, and appurtenances, as supplied by us for Her Majesty's Dockyards, Arsenals, water mains, stand pipes, hydrants, public buildings, several provincial towns, &c.

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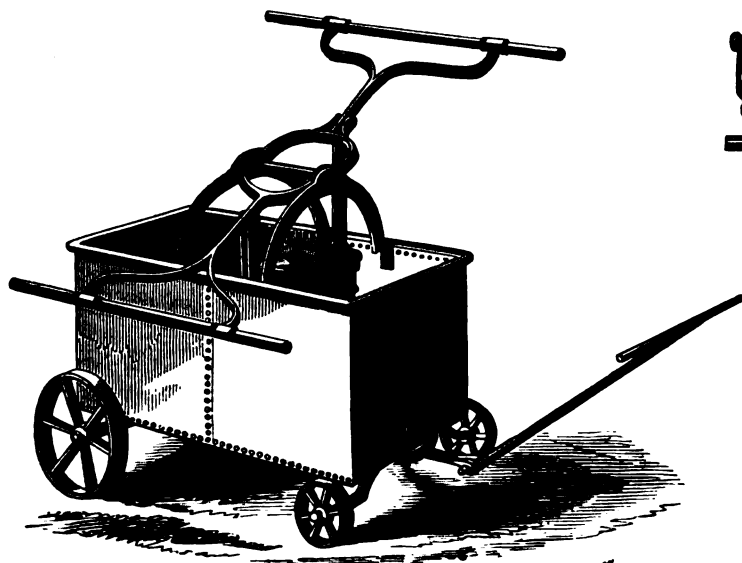
Nos. 14 and 14A.—**IMPROVED STAND PIPE**, with double outlet at top, screw caps, chains, &c., complete, as used by the London Fire Brigade, the principal waterworks companies, &c., made of copper, with gun-metal mountings.

It is sometimes made with iron pillar, and with single instead of double outlets; and any description of screw or fastening required at bottom, can be fitted to order.

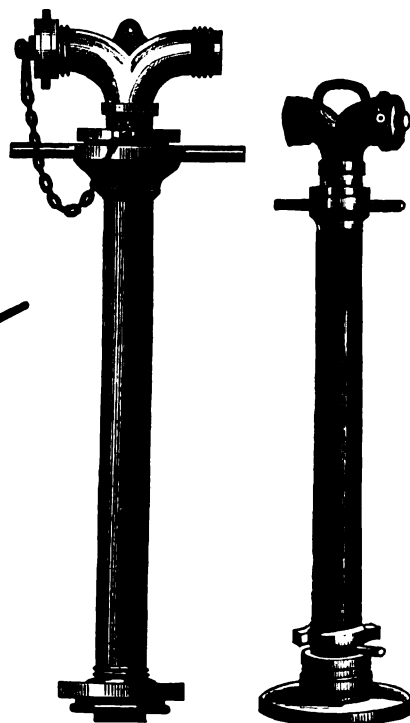
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No 15.—**COIL OF BEST RIVETTED LEATHER HOSE PIPE**, with gun-metal union, and copper branch pipe with jet attached.

All sizes made and kept in stock.

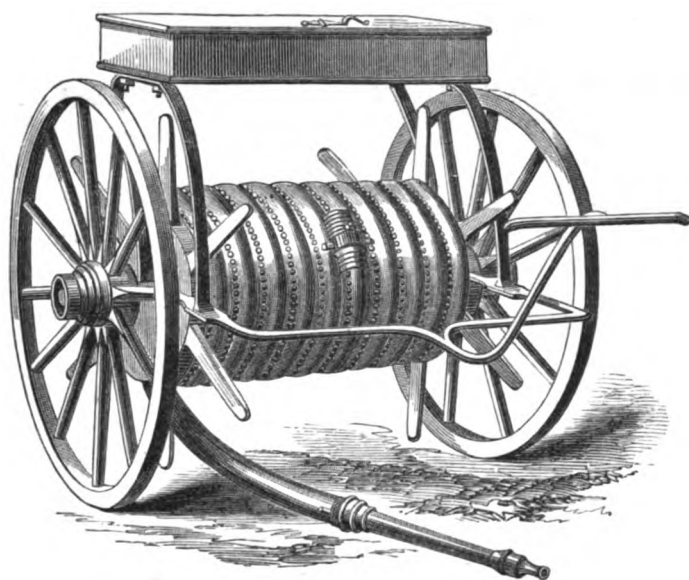


Nos. 10, 11, 12.

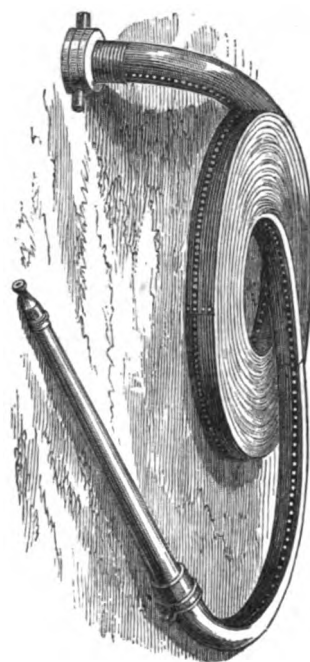


No. 14.

No. 14A.



No. 13.



No. 15.

No. 16.—**GUN-METAL UNION HOSE SCREWS**, for connecting leather, India-rubber, or canvas pipes, (*strong pattern*,) as those we make for Her Majesty's dockyards, the War Department, the principal dock companies, waterworks companies, &c., &c.

The following sizes made, viz.:— $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{2}$ , 4, 5, and 6-in. inside diameter.

No. 17.—**GUN-METAL UNION HOSE SCREWS**, for connecting leather, India-rubber, or canvas pipes, (*ordinary pattern*, as used in general trade.)

The following sizes made, viz.:— $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3 inches.

The  $2\frac{1}{2}$  size is cut to the London Fire Brigade gauge.

No. 18.—**COPPER RIVETTED LEATHER DELIVERY HOSE PIPE** (best quality).  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3 inches diameter.

No. 19.—**VULCANIZED INDIA-RUBBER DELIVERY HOSE PIPE** (best quality).

$1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3 inches diameter.

No. 20.—**SEAMLESS-WOVEN CANVAS DELIVERY HOSE PIPE** (best quality).

$1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3 inches diameter.

Canvas hose pipe to be used with union hose screws (No. 16) must be ordered  $\frac{1}{2}$  in. larger in diameter than the inside bore of screws, as this hose will not stretch.

No. 21.—**WROUGHT IRON HOSE WRENCHES**, made to suit any size of union screw.

No. 22.—**COPPER BRANCH PIPE**, with gun-metal top and bottom screws, and jet pipe attached. For  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3-inch hose.

No. 23.—**STRONG GUN-METAL CAPS**, for union hose screws, cut up to same thread as hose screws.  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{2}$ , 4, 5, and 6 inches diameter.

No. 24.—**STRONG GUN-METAL DISTRIBUTING DOUBLE CONNECTING SCREW**, to be attached to the nozzle of fire engine, so as to obtain two streams of water therefrom, instead of one.  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $2\frac{1}{2}$ , and  $3\frac{1}{2}$  inches diameter.

No. 25.—**STRONG GUN-METAL SPREADER**, to attach to end of branch pipe (No. 22), so as to discharge a *sheet* instead of a *jet* of water.

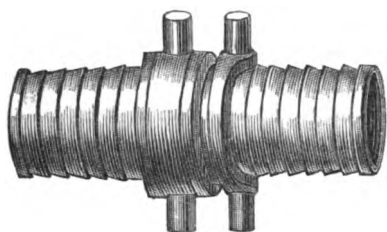
For  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3-inch hose.

No. 26.—**COPPER PERFORATED STRAINER** (flat pattern), with gun-metal union screw attached, for connecting it to bottom of suction hoses.

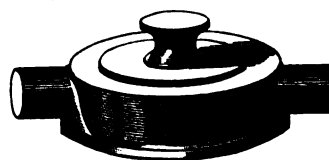
For  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3-inch hose.

No. 27.—Ditto ditto (round pattern), with gun-metal union screw attached, for connecting it to bottom of suction hose. For  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , and 3-inch hose.

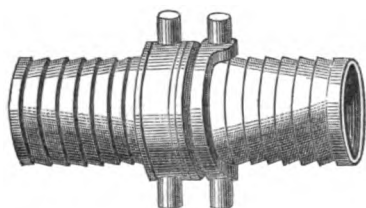




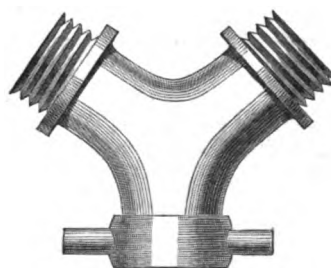
No. 16.



No. 23.



No. 17.



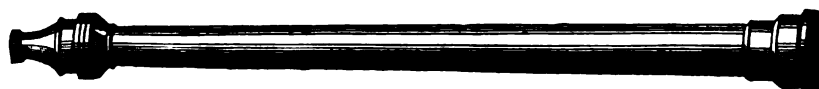
No. 24.



No. 21.



No. 25.



No. 22.



No. 26.



No. 27.

No. 28. — **GUN-METAL GLAND FIRE COCK**, with spanner, cap, chain, hose, wrench, &c.

This drawing shows the most approved mode of fitting these fire cocks, with the hose and branch pipe in close proximity, so as to be readily obtainable in case of fire.

For 2-inch hose pipe

|

For 2½-inch hose pipe

---

No. 29. — **GUN-METAL DOUBLE FIRE COCK**, with caps, chains, wrought-iron handles, &c., complete, as made by us for the water mains in Her Majesty's dockyards, for the principal contractors for hydraulic works, &c.

Each of the two outlets is screwed to the London Fire Brigade thread, and will take a 2½-inch hose pipe.

These cocks are generally fixed on to the main, with a moveable cover above them, so as to be readily accessible in case of fire.

---

No. 30. — **GUN-METAL FIRE COCK**, 2-inch, screwed to London Fire Brigade gauge, with lever, cap, and chain.

---

Nos. 31 and 32. — **PORTABLE FIRE PUMP**, as used by the London Fire Brigade.

Is invaluable at the commencement of a fire, as it can be taken to any required spot and readily and effectually handled by one person.

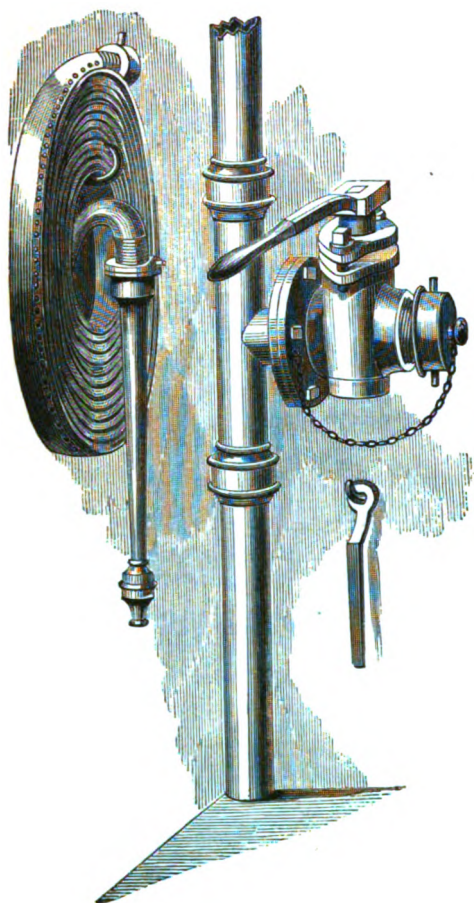
Price with 10 feet rivetted leather hose, swivel screws, and jet pipes ...

Galvanized iron pail, with interior socket for reception of pump, by which one person can work, and direct the jet ... ..

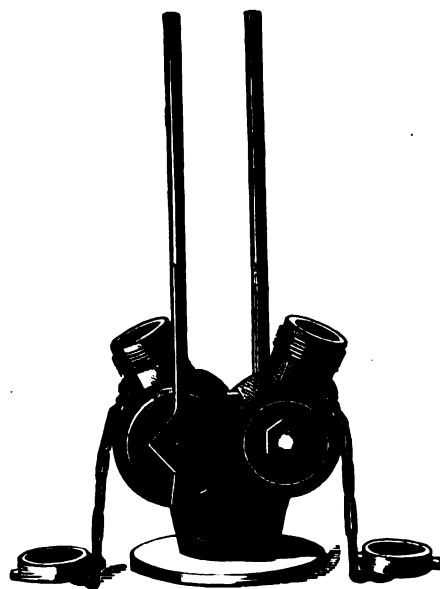
Additional, for india-rubber instead of leather hose ... ..

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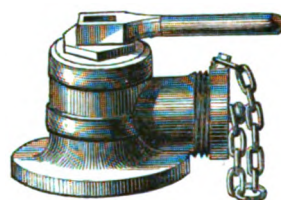
No. 33. — **BEST RIVETTED LEATHER FIRE BUCKET**, painted inside and outside  
Made to any required size; and any ornamental design painted on the outside to order.



No. 28.



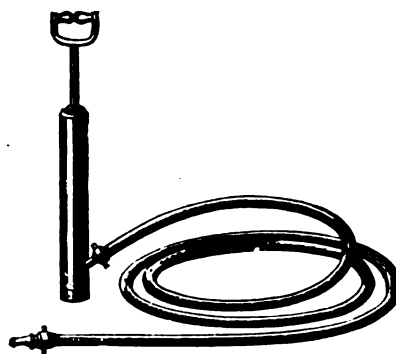
No. 29.



No. 30.



No. 31.



No. 32.



No. 33.

D

Nos. 34 and 35.—**HYDRANT OR FIRE COCK**, with box fitted and fixed to the valve, suitable, where placed level with the roadway or footpath.

Complete, fitted for bayonet joint,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3-inches diameter ... ..

Ditto, if bushed with gun-metal, and screwed to Brigade gauge, extra.

---

No. 36.—Ditto, adapted for fixing below the surface, the loose box, No. 37, being fixed above the valve, and level with the roadway.

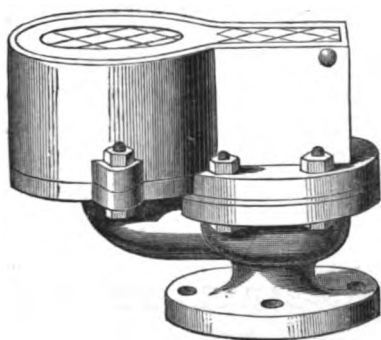
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Valve only for ditto, bushed with gun-metal, and screwed to Brigade gauge,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3-inches diameter.

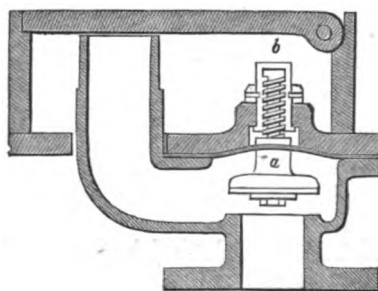
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No. 37.—Box only for ditto.

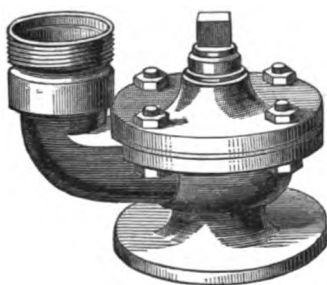
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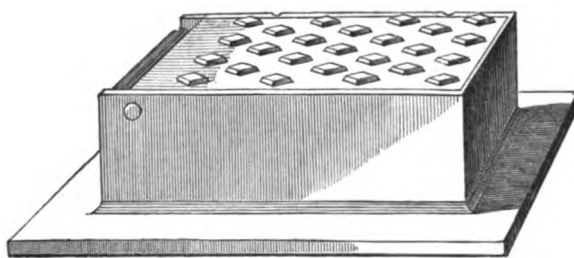
No. 34.



No. 35.



No. 36.



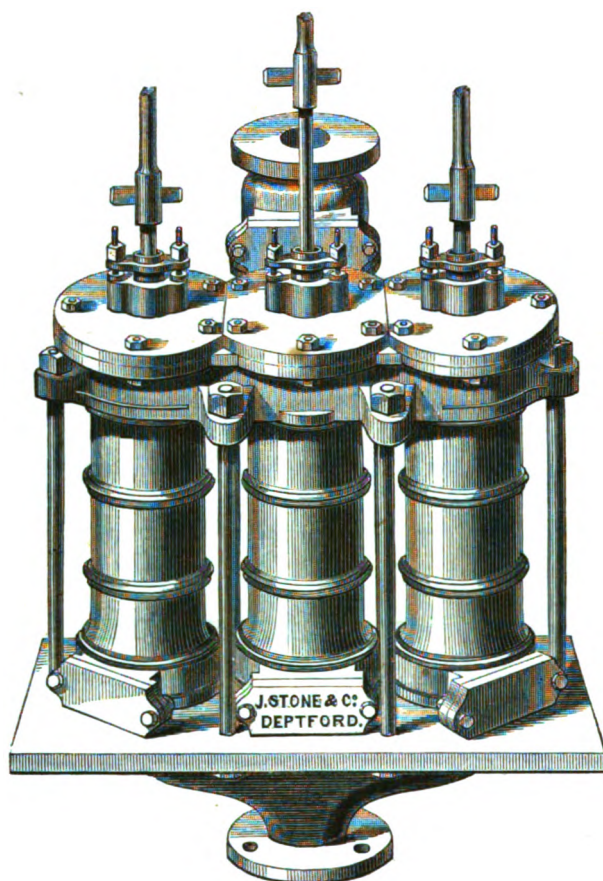
No. 37.

**No. 38.—EXTRA STRONG GUN-METAL TREBLE-BARREL PUMP, FOR  
WELLS, &c., fitted with doors so that valves can be removed.**

**May be worked by either engine, horse, or hand power.**

With three gun-metal barrels, each 3 inches diameter					...	...	...
"	"	"	"	4	"	...	...
"	"	"	"	5	"	...	...
"	"	"	"	6	"	...	...
"	"	"	"	7	"	...	...
"	"	"	"	8	"	...	...

---



No. 38.



**No. 39.—STRONG GUN-METAL TREBLE-BARREL PUMP, FOR DEEP WELLS, &c.** May be worked by either engine, horse, or hand power.

With three gun-metal barrels, each      ...      ...      ...      ...

3, 4, 5, 6, 7, 8-inch diameter.

---

**No. 40.—STRONG TREBLE-BARREL ENGINE PUMP,** fixed in cast-iron frames, with three-throw crank, slings, guides, &c., complete. This pump is suitable for breweries, distilleries, or for any purpose where a large quantity of fluid is desired, and may be worked by engine or horse power.

With three gun-metal barrels, each      ...      ...      ...      ...

3, 4, 5, 6, 7, 8-inch diameter.

---

**Nos. 41 and 42.—SINGLE OR DOUBLE-BARREL PUMP,** in iron frame, with crank, fly-wheel, handle, &c., complete.

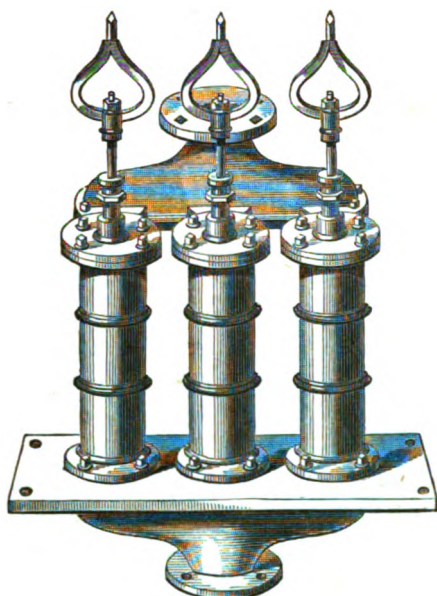
With one 3-inch barrel	...	...	...
„ two 3 „ „	...	...	...
„ one 4 „ „	...	...	...
„ two 4 „ „	...	...	...

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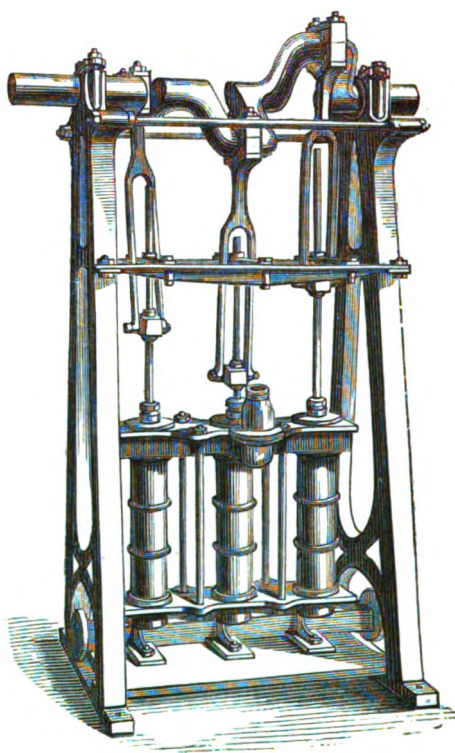
**J. STONE & CO.** have a large Assortment of Pump and Fire Engine Patterns, besides those specified above, and can manufacture whatever their Customers require, at a very low rate.

Pumps for Acids, Alkalis, and all Chemicals, made to order.

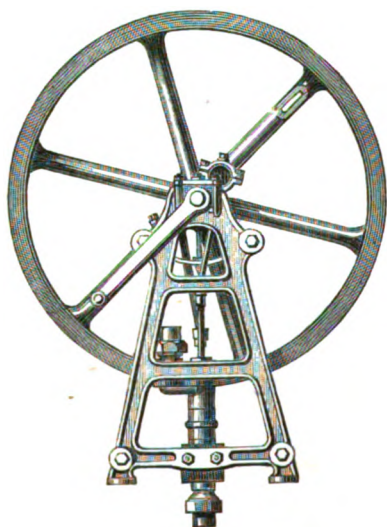
Pumps with Glass Barrels and India-rubber Valves and Buckets supplied.



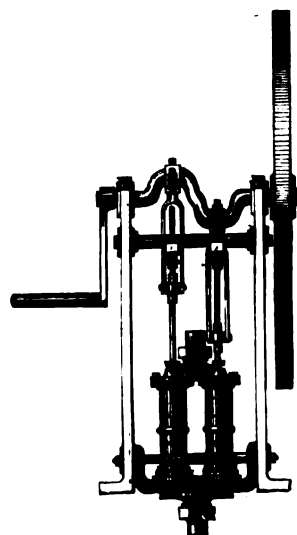
No. 39.



No. 40.



No. 41.



No. 42.

No. 43.—**STONE'S DOWNTON PUMP, WITH PATENTED IMPROVEMENTS TO THE WORKING PARTS**, on elm block, as fitted on the deck, showing fly-wheel, crank and straight handles, delivery nozzle, tail pipe leading from bottom of pump to centre hole of suction plate, also two suction pipes (broken off), one leading to sea-cock and the other to bilge.

This Bilge, Wash Deck, and Fire Engine Pump is admirably adapted for use on board ships, as it occupies no more room on the deck than a common single-action pump, although it has three buckets working one above the other in its single barrel, and has the power, and does the work, of three ordinary pumps. The working parts are so arranged, that it takes a less number of hands or power to work it than any other pump, and in all trials it has proved itself superior to all others brought against it. Besides, it presents a very handsome appearance, and is a great ornament to the deck upon which it is fitted.

We have made these pumps with great success, for nearly the whole of the vessels in Her Majesty's Navy, for Foreign Governments, the principal shipbuilders on the Thames and Clyde, and in fact, throughout Great Britain, &c. When fitted with the deck or suction-plate (as per next sketch *a* and *b*), they are capable of drawing water from as many as six different parts of the vessel; and the same pump can be used for drawing water from the fore-hold, after-hold, or engine-room, and discharging it either *above* the water-line, or else through the sea suction and out of the ship *under* the water-line by means of the dale hose (as per sketch *d*), also for drawing water from the sea, for washing decks, extinguishing fire, &c.; for drawing fresh water from the tank-room, or for drawing fresh water from craft alongside, and discharging it into the tanks on board. It can be also used as a syphon in case of emergency, and a large body of water run into the hold without any pumping at all. The manner in which all this is done is fully described in following paragraphs.

We make them entirely of gun-metal, or with iron bodies and gun-metal working parts, of each of the following sizes, viz:—

4½ inches inside diameter. STONE'S Improved Patent Downton Three-throw Engine Pump, with barrel, head, head-cap, buckets (leathered, &c.), bucket rods, stuffing boxes, three-throw crank, crank-end nuts, discharge nozzle, tail pipe for connecting suction, and cast-iron fly-wheel.

5 in.	"	"	"	"
5½ in.	"	"	"	"
6 in.	"	"	"	"
7 in.	"	"	"	"
8 in.	"	"	"	"
9 in.	"	"	"	"
12 in.	"	"	"	"

Extra for fitting lower valve box in bottom of pump, if required to draw from *one* place in the vessel only, viz:—

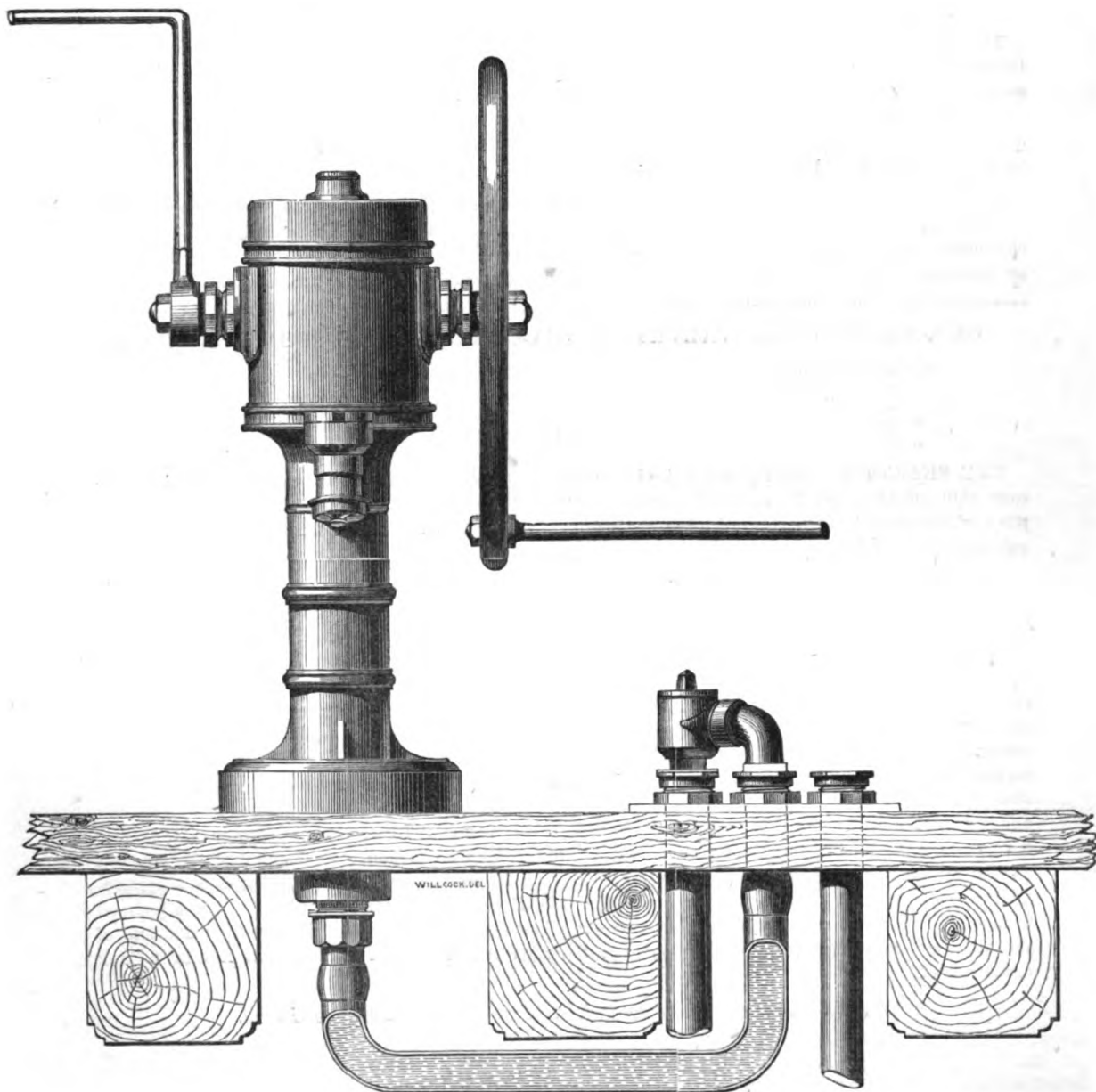
For 4½ in. pump
" 5 "
" 5½ "
" 6 "

For 7 in. pump
" 8 "
" 9 "

By Her Majesty's Royal Letters Patent.



**STONE'S PATENT DOWNTON SHIP'S PUMP AND FIRE ENGINE.**



No. 43.

**GUN-METAL SUCTION OR DECK PLATE**, with goose neck (Figs. *a* and *b*), containing the foot valve of pump, to draw from *six* different places in the vessel—

For $4\frac{1}{2}$ in. pump		For 6 in. pump
" 5 "		" 7 "
" $5\frac{1}{2}$ "		" 8 "

**GUN-METAL SUCTION OR DECK PLATE**, with goose neck (Figs. *a* and *b*), containing the foot valve of pump, to draw from *three* different places in the vessel—

For $4\frac{1}{2}$ in. pump		For 7 in. pump
" 5 "		" 8 "
" $5\frac{1}{2}$ "		" 9 "
" 6 "		

The **SUCTION** or **DECK PLATE** (*a*) is adapted to draw water from any number of different parts of the vessel. The centre hole is connected by a pipe with the tail of pump, and the communication made so as to pump from the fore-bilge, after-bilge, sea-cock, or any place to which a pipe is led, by screwing the part of goose neck containing the lower box, on to the hole in the suction plate leading to such part. To prevent mistakes, each hole in the plate should be marked by the party fitting the pump on board the vessel, with the letters denoting to what part of the vessel such pipe leads.

The **GOOSE NECK** (*b*) is for connecting centre hole of suction plate with either of the suction pipes, as above explained. This goose neck contains the lower or foot valve of the pump, and should any obstruction or foreign matter be drawn up the suction pipes, such will lodge in this valve box, which can be instantaneously cleared, by unscrewing the cap and removing the obstruction, so that, in such an instance the pump need not be interfered with at all.

**GUN-METAL INLET VALVES OR SEA-COCKS, FOR SHIP'S SIDE**—(Fig. *c*).

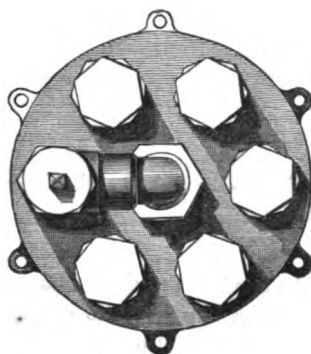
For $4\frac{1}{2}$ in. pump		For 7 in. pump
" 5 "		" 8 "
" $5\frac{1}{2}$ "		" 9 "
" 6 "		

**THE SEA-COCK** (*c*) with pipe is to lead through ship's side, and has a safety cap on top to keep the cock shut off when not in use, and connexion on nozzle to attach to suction pipe leading to suction plate. This cock is to be opened when the pump is required to be worked for washing decks, extinguishing fires, wetting sails, &c.

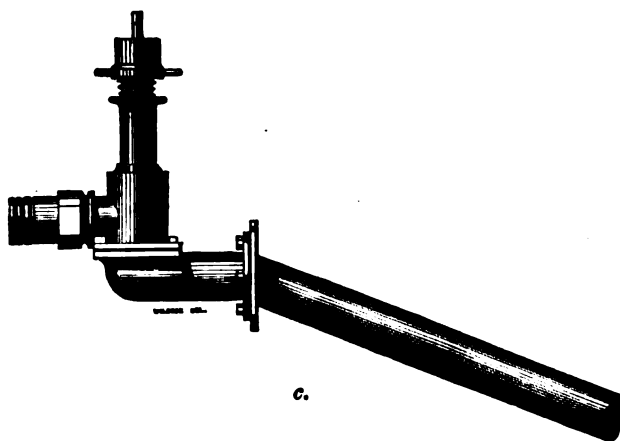
**d.—DALE HOSE**, one end to connect to nozzle of pump, and the other to either of the holes in suction plate. Its uses are: 1st. For passing bilge water through the sea-cock suction and into the sea below the water-line, instead of discharging it above, so as to avoid the foul smell and wetting the decks which would be occasioned thereby. —This is done by screwing one end of the dale hose on to the nozzle of the pump, and the other end on to the hole in suction plate (*b*) leading to sea-cock, and then pumping in the usual manner from the bilge. 2nd. For clearing bilge suction pipes in the event of their becoming obstructed by coal-dust or other matter, so as to avoid going below to clear them. —This is done, by screwing one end of the dale hose on to the nozzle of the pump, and the other end to the hole in suction plate, leading to the obstructed pipe, and then pumping water in the usual manner from the sea-cock. 3rd. For passing clean water into the ship from the sea, so as to keep it sweet and clean. This is done by screwing one end of the dale hose on to the nozzle of the pump, and the other end to the hole in suction plate leading to bilge, then, by having the goose neck screwed on to the hole in suction plate leading to the sea-cock suction, and giving a few turns of the handles to exhaust the air in same, the pump becomes a syphon, and the water will run in without pumping at all. 4th. For passing fresh water, which has been pumped from craft alongside, as explained in fig. *f*, to the ship's tanks. This is done, by screwing one end of the dale hose on to the nozzle of the pump and the other end to hole in suction plate leading to tank compartment.

*Special Estimates given to include Fitting and Fixing on Board.*

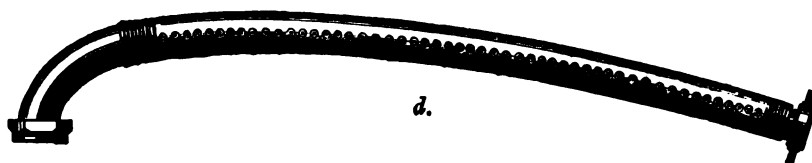




*a and b.*



*c.*



*d.*

*e.*—**BILGE STRAINER**, to be attached to the end of each of the bilge suction pipes. These strainers should be fixed in the water channels.

—**CUP SCREW AND CAP**, to be fitted on the upper deck. A pipe is led from the upper part of the nozzle of the pump to the under-part of cup screw, so as to deliver the water on the upper deck when the pump is fixed below. This cup screw is also used in drawing fresh water from craft alongside in the following way: The cup screw is fitted in the deck, and a pipe led from under-part of it to suction plate. When to be used: a leather suction hose is screwed into the top of cup screw and passed through a port, or otherwise, into the craft alongside.

*g.*—**BREECHING PIECE, OR DOUBLE-CONNECTING SCREW**, to connect to top of cup screw, so as to attach one or two hoses (as required) in the event of fire.

*h.*—**TANK PIPE with ELBOW**. The straight part is put into the tank, and the elbow is screwed on to one end of a leather hose, the other end of which, is connected to a pipe leading from the suction plate into the tank compartment.

*i.*—**BRANCH PIPE**, to attach to end of leather hoses, for fire engine purposes.

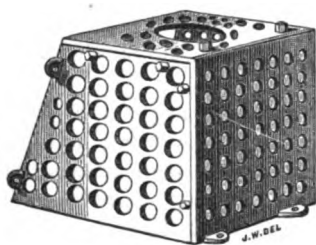
*j.*—**JET PIPE**, to attach to end of branch pipe, for fire engine purposes.

*k.*—**SPREADER**, to attach to end of branch pipe, to distribute a sheet of water when required.

*l.*—**ELBOW**, to attach to large end of branch pipe; to be used in case of fire being unapproachable from the deck in which it exists, by cutting a hole in the deck above it, and inserting the branch pipe through the aperture.

*m.*—**DELIVERY SCREW AND CAP, WITH TINNED SADDLE FLANGE**, for inserting into rising main or delivery pipe between the respective decks above the pump, so as to attach hoses thereto in case of fire.

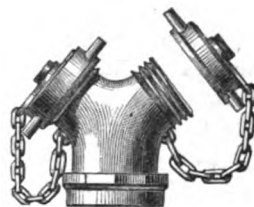
*n.*—**SPARE CUPPED LEATHER FOR BUCKETS OF PUMP**, so as to replace those in pump when worn out.



c.



f.



g.



h.



i.



j.



k.



l.



m.



n.

**No. 44.—GOSSAGE'S PORTABLE ENGINE PUMP.**—This Portable Engine Pump, designed for the use of Ships (especially Ships of War), is available for all the purposes of a Lift and Force Pump: it may be used for a Fire Engine, Watering Engine, and Wash-Deck Pump; also, as an auxiliary to, or substitute for, any fixed Pump on board of Ships, in case of need, and can be used to wet the sails, or to work in a boat to wash the Ship's side, and to extinguish fire in the last extremity. It is applicable also as a most durable and effective Liquid Manure Distributor for Agricultural purposes.

The principal advantages, as compared with other similar Machines, are its great portability, and working in less space, increased durability under the action of sea-water, and its being less liable to injury from accident, or to get out of order. It is also provided with Metallic Valves in lieu of leather, and with vulcanized India-rubber Discs between the piston cups; and from its construction is adapted to *all climates*, and it does not become inefficient by not being kept in constant use, or by being free from water. They have been much approved in Her Majesty's Navy; were considered very suitable for the Ships of the Arctic Expedition; on the coast of Africa, and other Stations, as well as in the Russian Navy.

The sizes in use are two, viz., small and large, either of which may be carried under hand by two men, and one or more may work either of them. They discharge from 46 to 78 gallons of water in a minute, and in calm weather, force the jet of water about 80 feet in height.

Large size	"	"
Small size	"	"

*Gear as follows extra:—*

*a.*—Working Board, and Box for Gear.

*b.*—Hoses, Delivery, leather, rivetted; for attaching to the engine pump, when used as a watering engine on shore, as a fire engine, and under all circumstances where canvas hoses would be too pervious for the force required.

*c.*—Hoses, Delivery, canvas; to attach to the end of the leather hose for watering the ship, for conveying fresh water from the shore through the sea, &c.; the leather strap on each, serves to keep the hose in coil, and also for securing it to an oar or buoy to float the hose.

*d.*—Hoses, Suction, leather, rivetted, with spiral; for lifting water from any depth within the ordinary limits of atmospheric pressure.

*e.*—Strainer, copper; to be attached to the end of the suction hoses, to prevent weeds, dirt, chips, or stones, being drawn into the engine pump.

*f.*—Double Screw, mixed metal, to connect the smaller suction hoses to the larger sizes.

*g.*—Neck Piece, mixed metal, with female swivel, and male-screw ends; to be inserted between the suction hoses, or on to the engine, when the hoses are likely to be injured from hanging on a band, such as over the ship's side, the comings, &c.

*h.*—Branch Pipe, copper, fitted with a mixed metal jet-pipe; to be used for extinguishing fire, wetting sails, washing the ship's side, &c., &c.

*i.*—Double-connecting Screw, mixed metal, for connecting hoses, to branch off into two streams of delivery when required.

*j.*—Bent Pipes, copper, for filling casks.

*k.*—Hose Wrenches, iron.

*l.*—Turnscrew, portable, iron; to suit the screws of the engine pump.

**SPARE GEAR.**

*m.*—Rings or Washers, of leather, for Hose Screws.

*n.*—Cup or Piston Leathers.

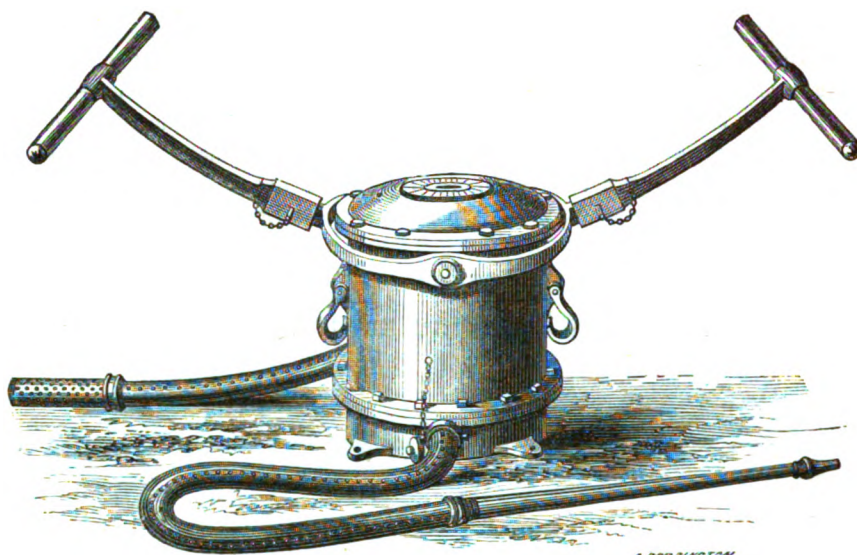
*o.*—Screws, mixed metal, assorted.

**WASH-DECK GEAR.**

*p.*—Deck Screw and Cap, mixed metal; for soldering to the leaden "wash-deck pipe," leading from the wing-cock to the deck.

*q.*—Neck Piece, mixed metal, with female swivel ends, to connect the suction hose of the engine pump with the deck screw, for drawing water from the wing-cock pipe, for wash-deck purposes, &c.

The whole of above gear is not absolutely necessary, but renders the engine complete for all purposes required; for instance, under ordinary circumstances items *f*, *g*, *i*, *j*, *p* and *q*, would not be required.



No. 44.



e.



f.



g.



h.



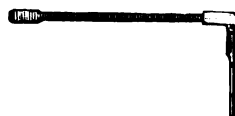
i.



j.



k.



l.



p.



q.



No. 45.—**IMPROVED PORTABLE FIRE ENGINE**, with all the latest improvements, and can be confidently recommended as the most economical, durable, compact, and powerful Portable Engine in use. We have supplied them with great success to Her Majesty's Navy, Foreign Governments, the Peninsular and Oriental Steam Navigation Company, and nearly all the principal shipping companies and shipbuilders in Great Britain, &c. They can be readily carried by two men, or fitted with four wheels, according to the purchaser's option, or they can be supplied with the travelling carriage (No. 9). They can be also worked by levers as shown, which is the usual method, or fitted with a pair of A frames and crank, so as to obtain a rotary motion. We make them entirely of gun-metal, or with cast-iron casing and gun-metal barrels and working parts; and the sizes in general use are two—large, which has two 6 in. diameter working barrels; and small, which has two 5 in. diameter working barrels.

No. 45A.—Ditto, ditto, but with different arrangement of levers, &c.

LARGE SIZE ALL GUN-METAL FIRE ENGINE, mounted on wooden base, with wrought-iron lever handles, wood handles, &c.

SMALL SIZE, do.

” ”

LARGE SIZE, do., but with outer casing made of cast-iron, and gun-metal barrels and working parts, with wrought-iron lever handles, wood handles, &c.

SMALL SIZE, do.

” ”

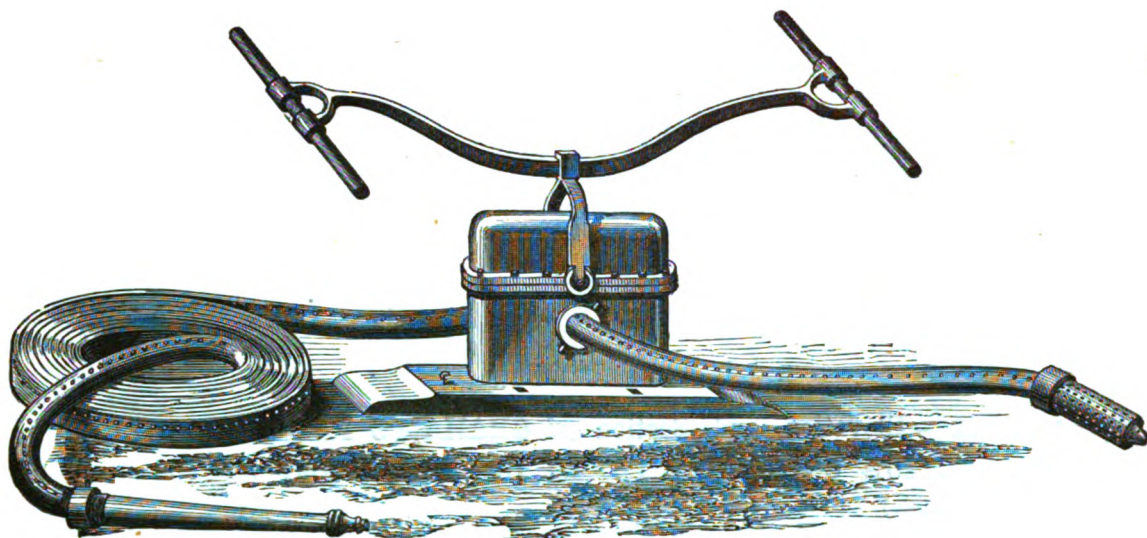
We have made extensive shipments of these Portable Fire Engines, and they are equally adapted for use for land purposes, as for on board ship.

The following is the account which appeared in the *Times* and *Mechanics' Magazine* of the last trial of this Fire Engine against two others at Woolwich Dockyard, in November 1862, by order of the Lords Commissioners of the Admiralty, by which it will be seen that its superiority was well maintained:—

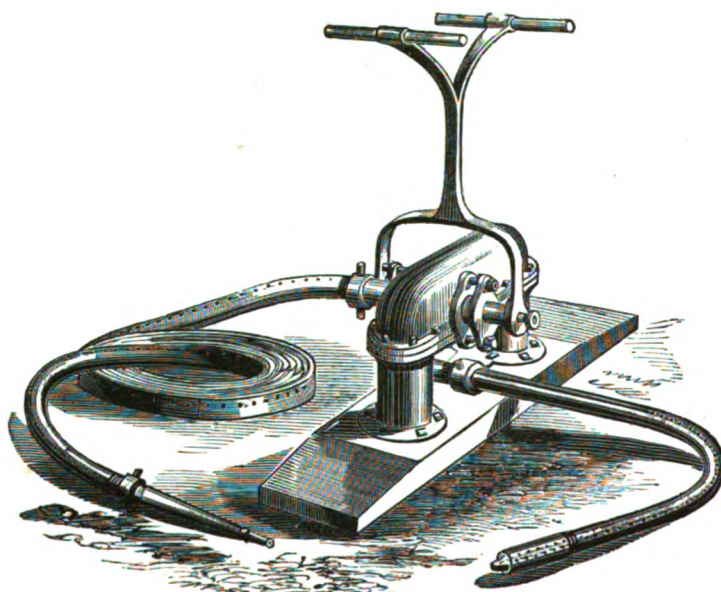
Extract from *Mechanics' Magazine*, November 14th, 1862.

“PORTABLE SHIP'S ENGINE PUMPS.—Last week some trials and experiments took place in Woolwich Dockyard, by order of the Board of Admiralty, to test the relative merits of three rival portable ship's engine-pumps. The Commodore Superintendent, Sir F. Nicolson, Mr. Turner, Mr. Thornton, and others were in attendance. The first engine tried was that of Mr. Roberts, of Millwall, and manufactured by Messrs. Brown, Lenox and Co. This was a double-action pillar-pump, and was worked by four men, and afterwards by double that number, casting various jets of water by a change of hose-pipes, directed horizontally and vertically. It filled a tank containing 108 gallons of water, in 2 minutes and 31

seconds, from one of the fitting basins adjoining the place of trial. The result was very satisfactory. The next trial was with Mr. Stone's, of Deptford, also a portable engine of similar dimensions, but pronounced superior in power and capacity in each of the tests, as to distance, height, and the time consumed in filling the tank. The third engine was that of Mr. Gossage, of the Admiralty, and manufactured by Mr. Stone, which underwent the same series of trials as the two named above, and with a slight advantage over that of Mr. Roberts. At the termination of the trial, an opinion was pronounced by the inspecting officers in favour of the engine supplied by Mr. Stone.”



No. 45.



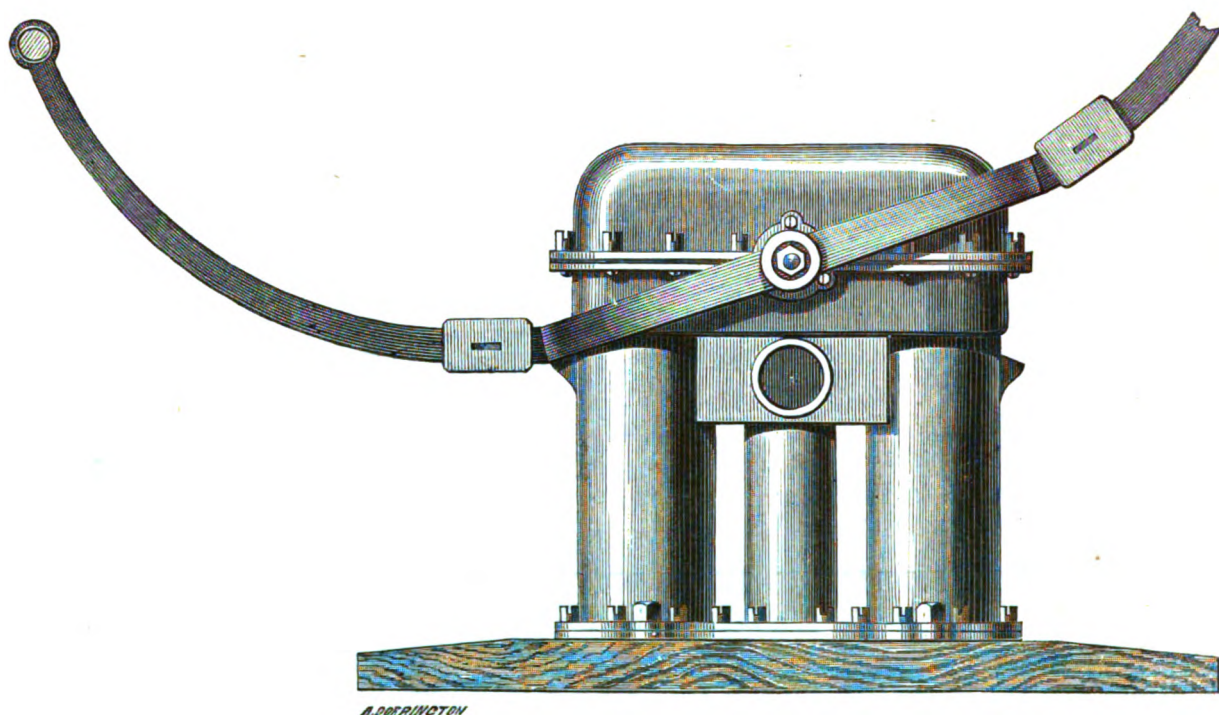
No. 45A.

Nos. 46 & 46A. — **Elevation, and Section of GRAHAM'S PATENT DOUBLE ACTION COMPENSÉ FORCE OR LIFT PUMP** (either fixed or portable).

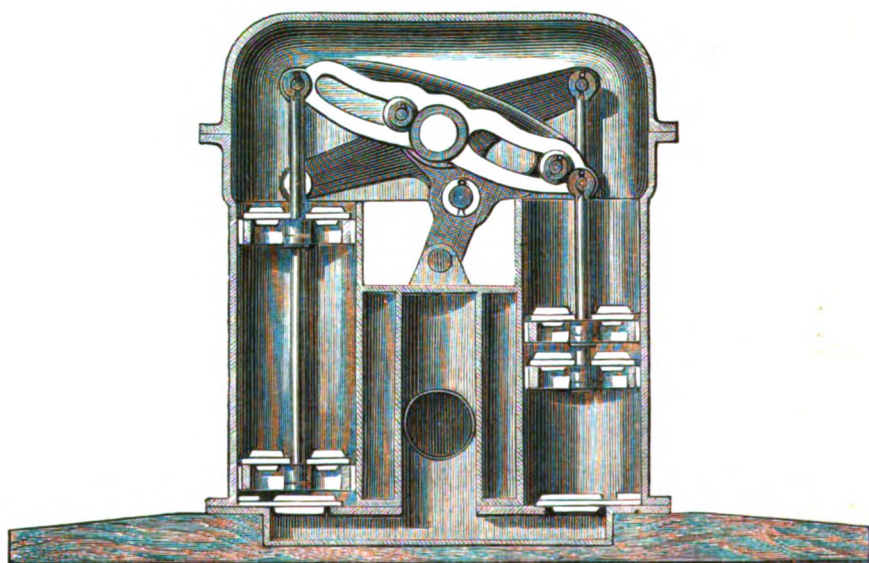
This pump is very compact and powerful, being constructed so that there are two working buckets in each of its two barrels.

It can be safely recommended.

Large size	...	...	...	...	...
Small size	...	...	...	...	...



No. 46.



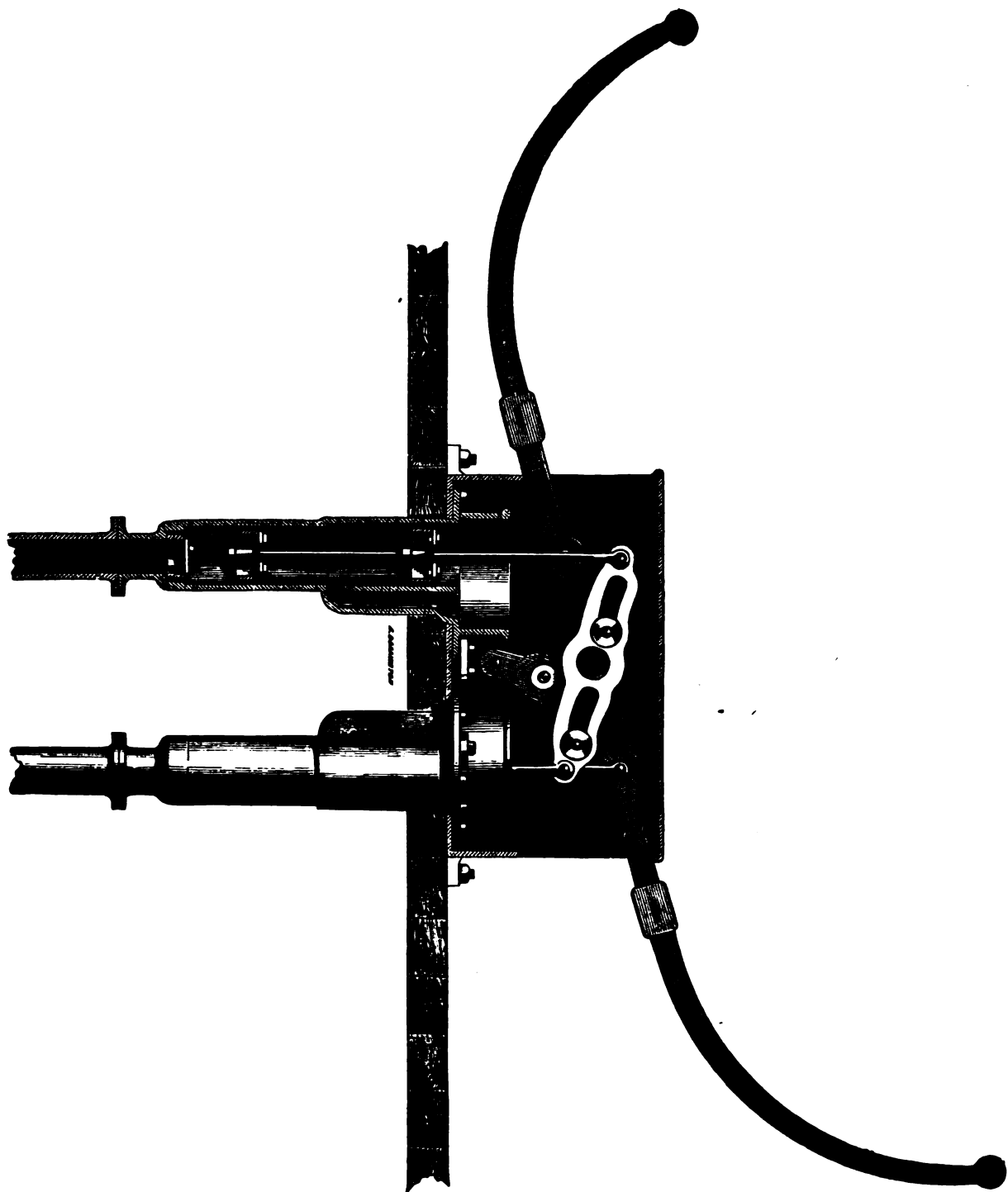
No. 46A.

**No. 47.—DOUBLE-BARREL SHIP'S BILGE PUMP**, with Graham's patent arrangement introduced, so as to have two working buckets in each of its two barrels, in a similar manner to Nos. 46 and 46A.

This is a very good pump, and will discharge a large volume of water.



No. 47.



No. 48.—**METAL FLUSH DECK PUMP**, for ship's use, arranged so as to unship the whole of handles and working gear when the pump is not required to be used, leaving the barrel of the pump only, into the top of which a metal deck cap is screwed, which comes flush with the surface of deck, and the barrel is fitted below, out of the way, so that no space whatever is occupied on the deck.

- A. Barrel.
- B. Bucket rod.
- C. Stantion.
- D. Handle.
- E. Wedge lever for prising up stantion out of socket.
- F. Spanner for screwing and unscrewing deck cap.

Lead suction pipes are usually fitted to these pumps.

3 inches diameter.			5 inches diameter.		
3½	"	"	6	"	"
4	"	"	7	"	"
4½	"	"			

These pumps are made with head and nozzle, and also to deliver under deck, with one or two nozzles as required.

No. 49.—**CAST-IRON BARGE PUMP** (bored barrel) with wrought-iron bucket rod, handle, &c.

Diameter of barrel.	Height.
4½ inch.	7 feet.
5 "	7 "
6 "	7 "
7 "	7 "
8 "	7 "

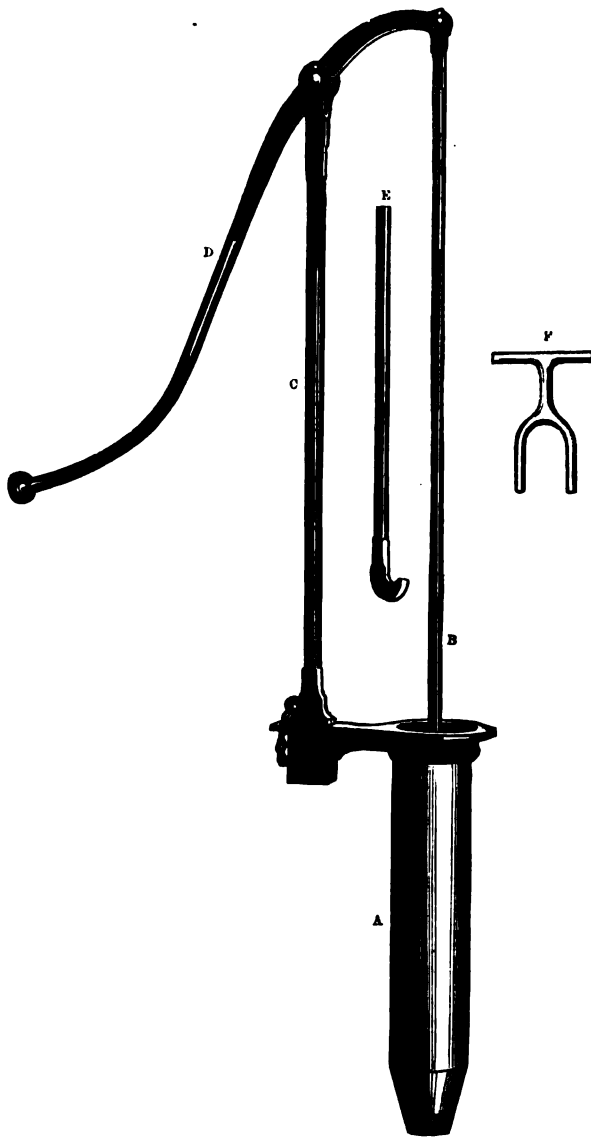
No. 50.—**WROUGHT-IRON BARGE PUMP**, with bucket rod, handle, &c.

Diameter of barrel.	Height under spout.	Painted or Galvanized.
3 inch.	7 feet.	
4 "	7 "	
5 "	7 "	
6 "	7 "	

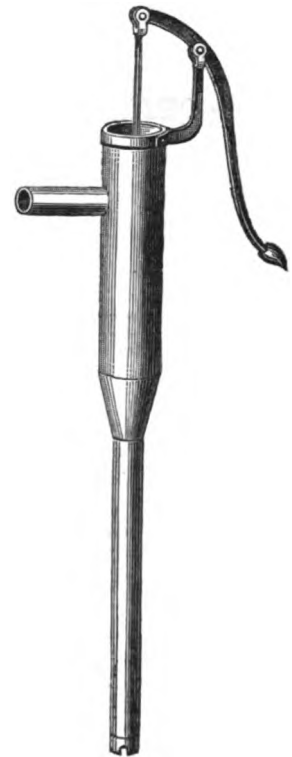
Can be made any length or size required.



No. 49.



No. 48.



No. 50.

No. 51.—**METAL PUMP BARREL**, bored, made of all sizes or lengths, as ordered,  
at per pound.

---

No. 52.—**BRASS PUMP BUCKET**, with leather cup and clack, complete.  
2, 2½, 3, 3½, 4, 4½, 5, 6, 7, and 8 inches diameter.

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No. 53.—**BRASS PUMP SUCKER**, or **LOWER BOX**, with leather clack.  
2, 2½, 3, 3½, 4, 4½, 5, 6, 7, and 8 inches diameter.

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No. 54.—Ditto ditto ditto ditto.

---

No. 55.—**QUILTED CUP**, for hot liquor.  
2, 2½, 3, 3½, 4, 4½, 5, 6, 7, and 8 inches diameter.

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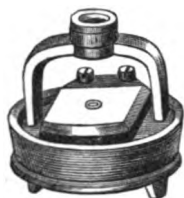
No. 56.—**CUPPED LEATHER**, for pump buckets.  
2, 2½, 3, 3½, 4, 4½, 5, 6, 7, and 8 inches diameter.

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No. 57.—**BRASS HINGED DECK PLATE**.  
1½, 2, 2½, 3, 3½, 4, 5, 6, 7, and 8 inches diameter.

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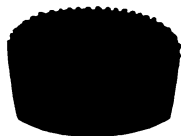
No. 58.—**BRASS SCREWED DECK PLATE**, with screwed cap.  
1½, 2, 2½, 3, 3½, 4, 5, 6, 7, and 8 inches diameter.



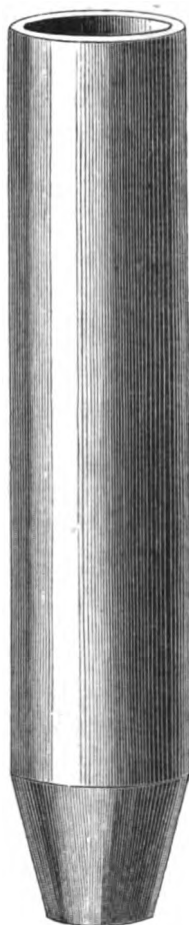
No. 52.



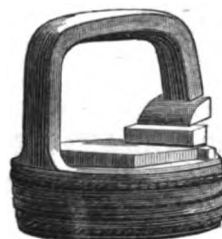
No. 53.



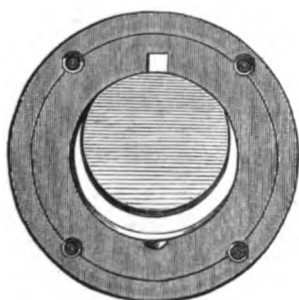
No. 55.



No. 51.



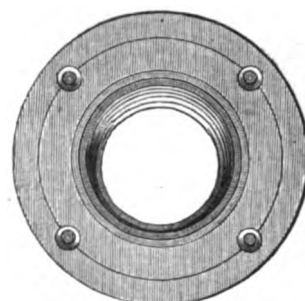
No. 54.



No. 57.



No. 56.



No. 58.

No. 59.—**BRASS DECK PUMP**, with iron stantion and handle (discharge nozzle opposite handle), screwed at bottom to attach to deck plate.

2½, 3, and 3½ inches diameter.

No. 60.—Ditto ditto with iron stantion and handle (discharge nozzle at right angles with handle), screwed at bottom to attach to deck plate.

2½, 3, and 3½ inches diameter.

For the screwed deck plates and caps for these pumps, see No. 58.

These pumps are sometimes made with flat back, so as to secure them to bulkhead, instead of screwing into deck, and can be supplied with any required modifications.

---

No. 61.—**BRASS DECK PUMP**, with iron jointed stantion and handle. Screwed at bottom to attach to deck plate. 2½, 3, and 3½ inches diameter.

For the screwed deck plates and caps for these pumps, see Nos. 58 and 63.

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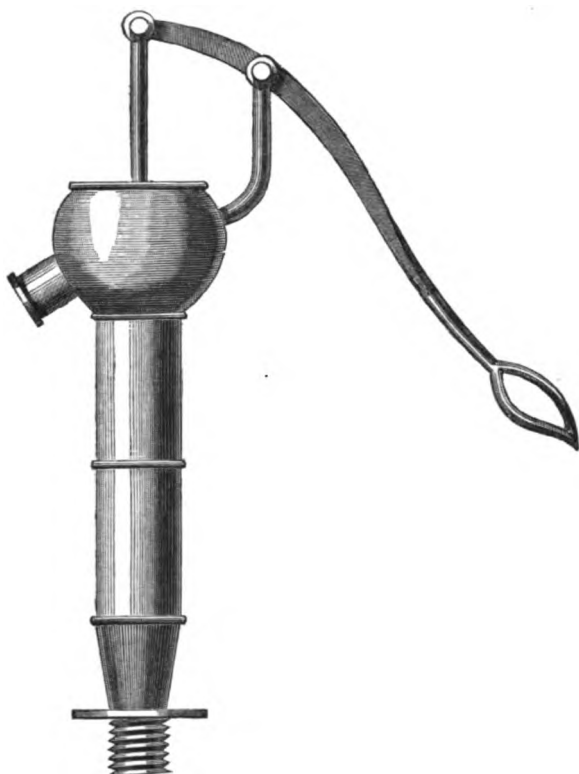
No. 62.—**BRASS DECK OR TANK PUMP**, with Tee handle to bucket rod. Screwed at bottom to attach to deck plate.

2½ and 3 inches diameter.

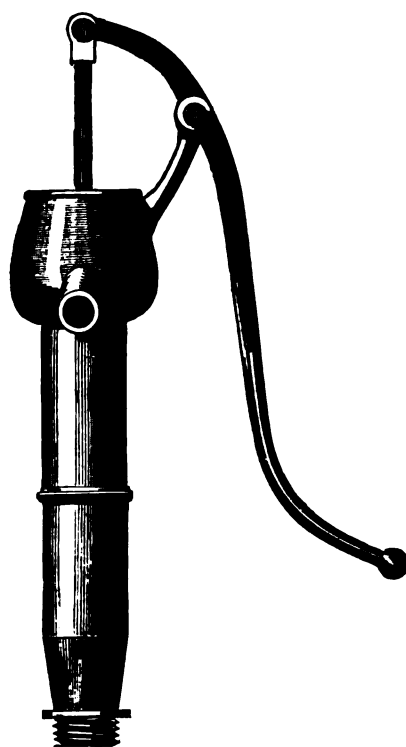
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No. 63.—**BRASS SCREWED DECK PLATE**, for above pumps.

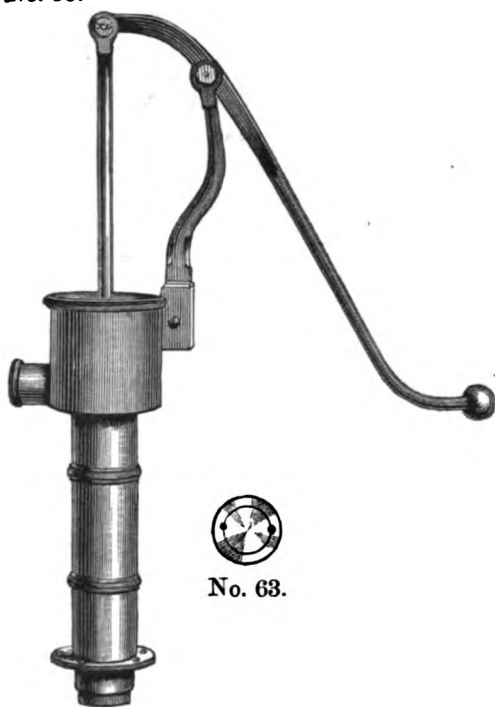
For larger illustration, see No. 58.



No. 59.

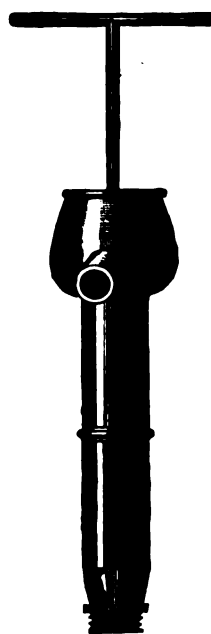


No. 60.



No. 63.

No. 61.



No. 62.

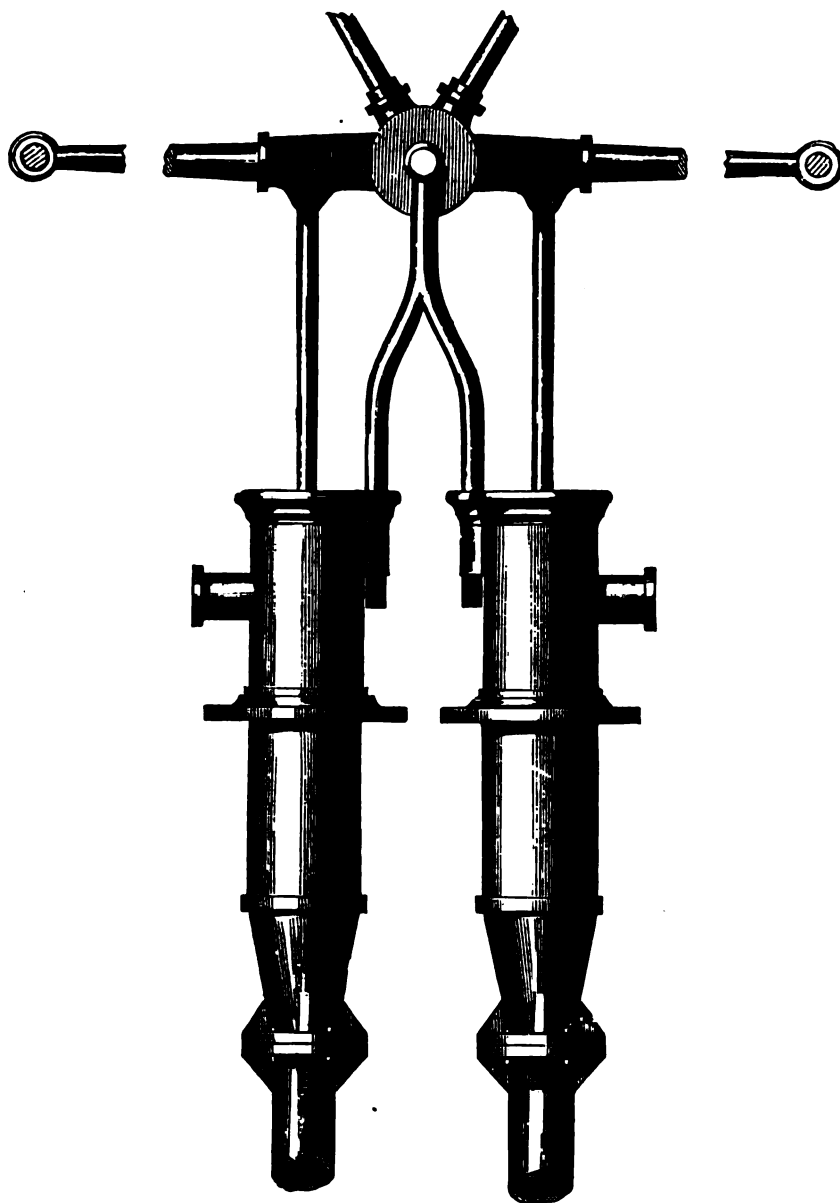


No. 64.—**DOUBLE BARREL WEE GEE BILGE PUMP**, with cast-iron barrels (brass lined), brass foot valves, and working buckets, iron wee gee, and lever handles, flanges on barrel to secure to deck, and at bottom to attach suction pipes.

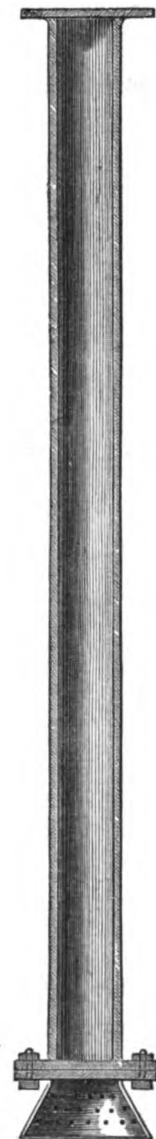
4, 5, and 6 inches diameter.

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No. 65.—**CAST-IRON SUCTION PIPE**, to attach to bottom of Double barrel Wee Gee Bilge Pump (No. 64), with perforated strainer at lower end.



No. 64.



No. 65.

**No. 66.—COPPER BREWER'S HOT LIQUOR PUMP,** with brass bucket and valve.

Diameter of barrel.	Height under spout.
3-inch.	10 feet.
4 „	10 „
5 „	10 „

Can be made any length or size required.

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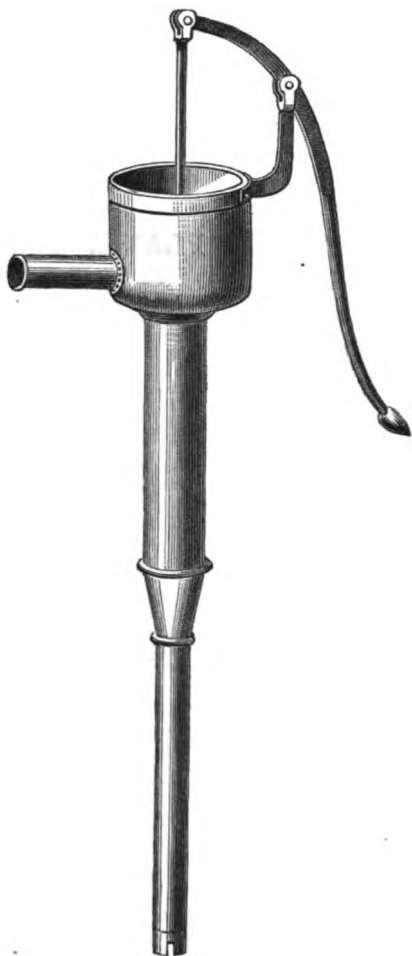
**No. 67.—WROUGHT-IRON CONTRACTOR'S PUMP.**

These pumps are made 14 feet in one length, but can be lengthened, either by lengths of iron-flanged pipe, or by means of the sliding suction shown in engraving, by which the pump can be worked at any depth between 14 and 22 feet.

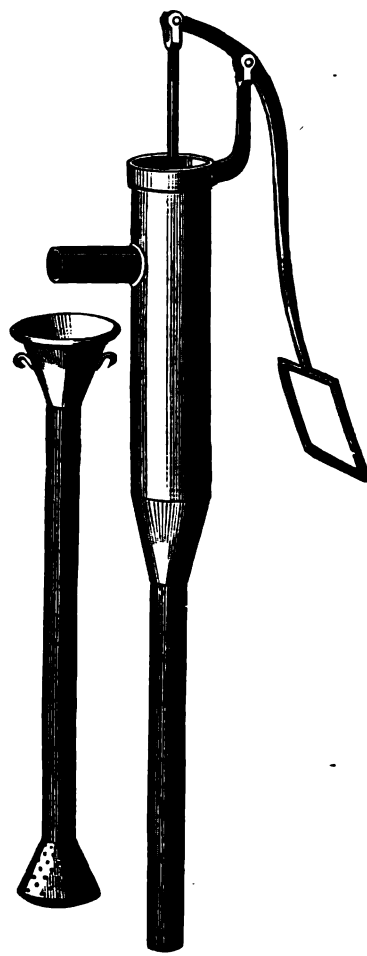
Diameter of barrel.	Height under spout.
4 inches.	14 feet.
5 „	14 „
6 „	14 „
7 „	14 „
8 „	14 „
9 „	14 „

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**No. 68.—SLIDING SUCTION** for Contractor's Pump, 6 feet 6 inches long. The funnel shape head is filled with clay to make the joint, and can be lowered as required, without unfixing any part of the pump. For 4, 5, 6, 7, 8, and 9-inch pumps.



No. 66.



No. 68.

No. 67

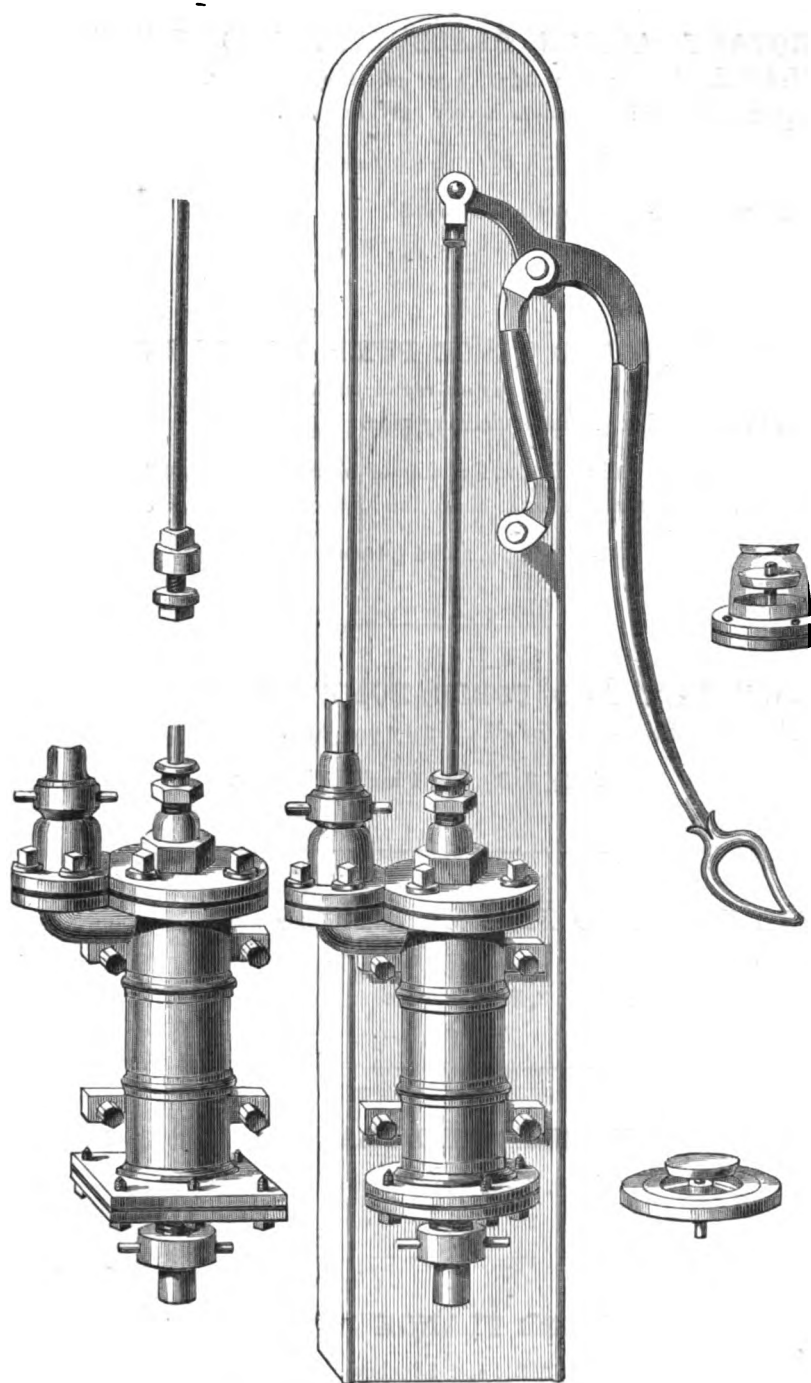
No. 69.—**BRASS LIFT AND FORCE PUMP ON PLANK**, fitted with the vibrating standard, by which the carriage, slings, and guide rod are entirely dispensed with, thereby rendering it more simple and less expensive.

2,  $2\frac{1}{4}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter.

---

No. 70.—Ditto, ditto, with square tail for deep wells, without plank.

2,  $2\frac{1}{4}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter.



No. 70.

No. 69.

H

No. 71.—**ROTARY ACTION BRASS LIFT AND FORCE PUMP ON PLANK**, having the advantage of the rotary action and fly-wheel, which decreases labour and renders it very easy to work.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter.

The handles of these pumps can be removed.

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No. 72.—**BRASS LIFT AND FORCE PUMP ON PLANK**, with carriage, sling, and guide rod, also with copper air-vessel on delivery nozzle; having a male screw on top, to attach rising main or delivery pipe.

These pumps are specially adapted for ship or house purposes, where the water has to be pumped into cisterns or tanks above the level of pump nozzle.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter.

---

No. 73.—**BRASS LIFT AND FORCE PUMP ON PLANK**, with carriage, sling, and guide rod complete, for all ordinary purposes.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter.

---

No. 74.—**TAIL PIPE AND FLANGE**, suitable for above lift pumps, with leathered clack.

For 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter pumps.

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No. 75.—**DELIVERY CHAMBER AND FLANGE**, suitable for above lift pumps.

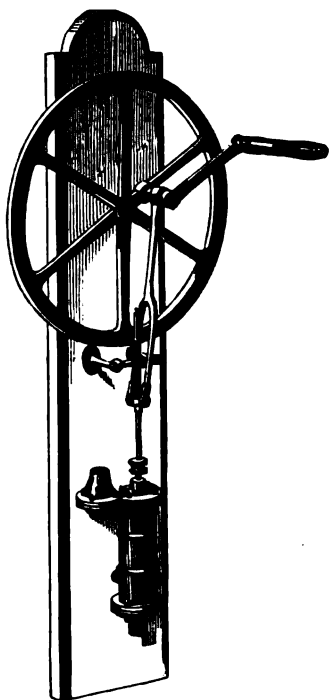
For 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter pumps.

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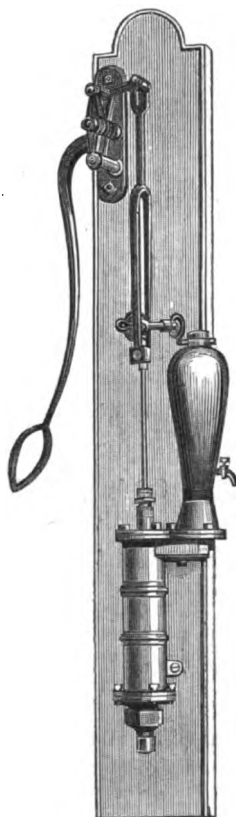
No. 76.—**STUFFING-BOX AND FLANGE** (leathered), suitable for above lift pumps.

For 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches diameter, pumps.

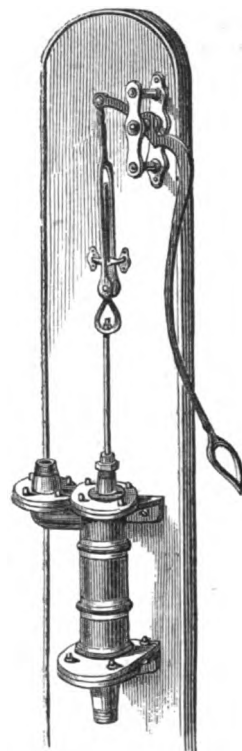




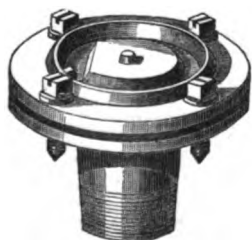
No. 71.



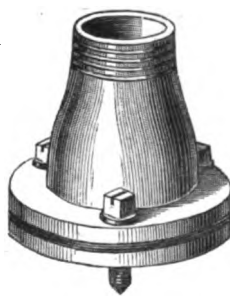
No. 72.



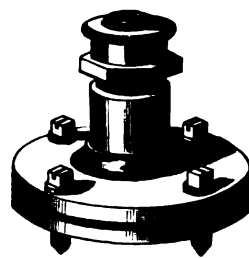
No. 73.



No. 74.



No. 75.

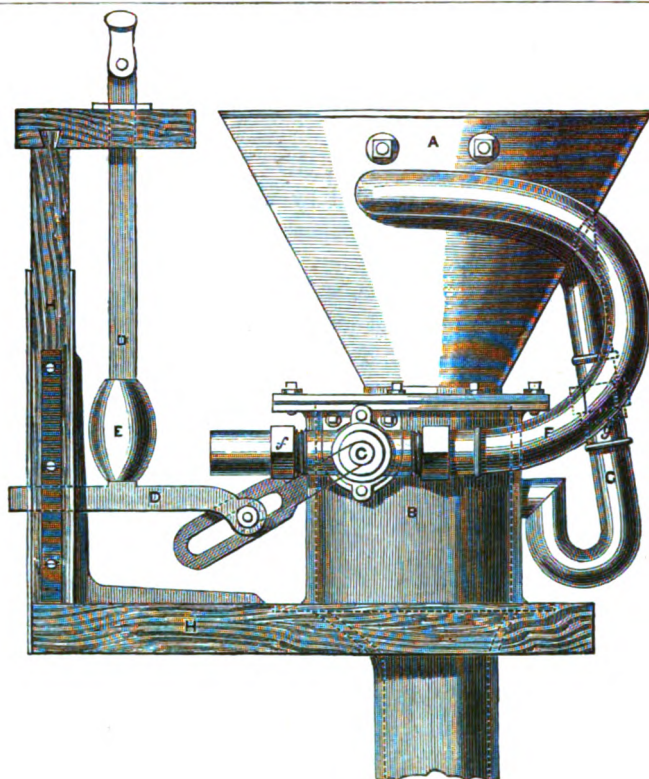


No. 76.

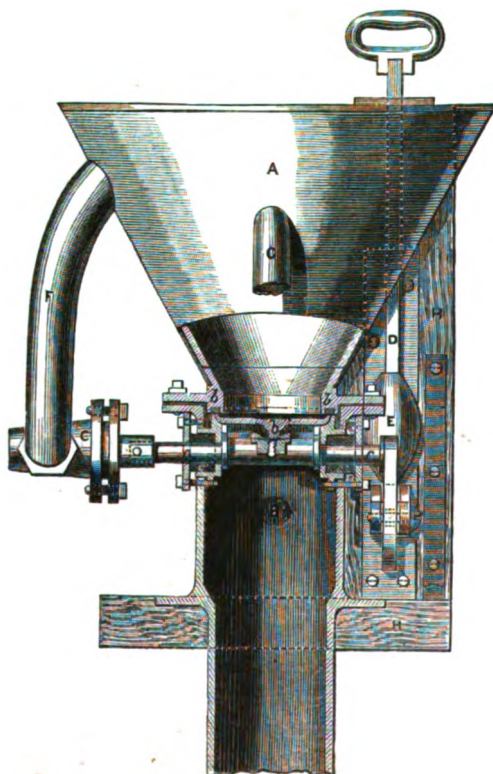
Nos. 77 and 77A.—**J. STONE & CO.'s IMPROVED SHIP VALVE WATER-CLOSET**, for fitting above the load-water line, as supplied by us for Her Majesty's Navy, the Peninsular and Oriental Steam Navigation Company's Vessels, &c.

This closet is a very superior article, and is fitted with copper container, enclosing blue printed earthenware basin, bright brass pull-up, &c., complete.

Any spare parts of closets supplied to order.



No. 77.



No. 77 A.

No. 78.—**J. STONE & CO.'s IMPROVED DOWNTON SHIP CLOSET**, for fixing below water-line, as supplied by us for Her Majesty's Navy, the Peninsular and Oriental Steam Navigation Company's Vessels, &c.

This closet is a very superior article, and fitted with blue printed earthenware basin in strong cast container, gun-metal pump and working parts, union for discharge pipe, polished mahogany top and pad, &c.

First quality     ...     ...     ...     ...

No. 79.—Ditto, Second quality     ...     ...     ...     ...

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No. 80.—**SIDE FLANGE** with nut and elbow for ships' side discharge pipe, suitable for wood or iron vessels ...     ...     ...     extra

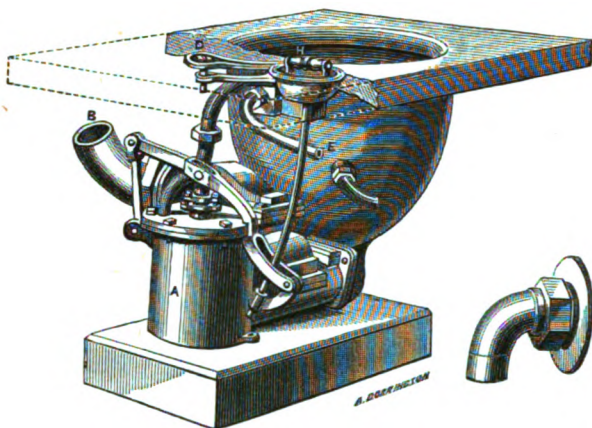
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No. 81.—**J. STONE & CO.'s IMPROVED SHIP VALVE WATER-CLOSET**, for fitting above load-water line, as supplied to the Peninsular and Oriental Steam Navigation Company's Vessels, &c., with copper container, blue printed basin, &c., complete.

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No. 82.—**J. STONE & CO.'s IMPROVED SHIP VALVE WATER-CLOSET**, with enamelled iron basin, pull-up handle, &c., complete.

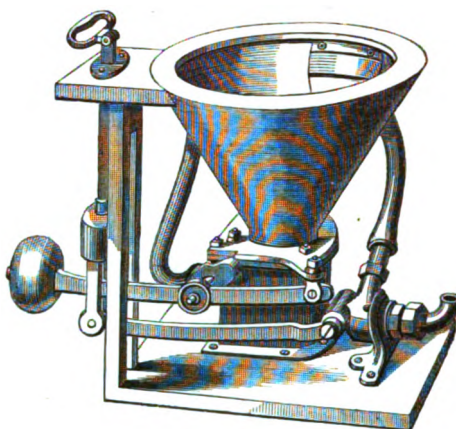
No. 83.—Ditto, with copper container, white basin, pull-up handle, &c., complete.



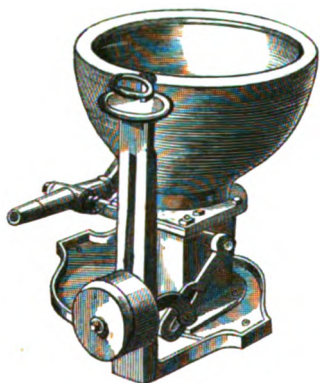
Nos. 78 and 79.



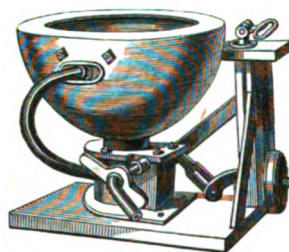
No. 80.



No. 81.



No. 82.



No. 83.

**No. 84.—PAN WATER-CLOSET.**

Full size strong black pan closet, with copper pan, flat plate and handle, white basin, round valve, ball-lever, cranks, and wire.

- a. Full size strong black pan closet, with copper pan, sunk opal handle, blue basin, round valve, ball-lever, cranks, and wire.
- b. Full size strong bright pan closet, with copper pan, flat plate and handle, white basin, best round valve, ball-lever, cranks, and wire.
- c. Full size strong bright pan closet, with copper pan, sunk opal handle, blue basin, best round valve, ball-lever, cranks, and wire.

*Extras.*

- d. Shoe valve instead of round valve.
- e. Spring valve, board, rod, and sling instead of round valve.
- f. Lead service box.
- g. Lead D trap.

**No. 85.—SELF-ACTING PAN CLOSET AND HOPPER,** recommended for use in railway stations, asylums, prisons, large hotels, schools, and other public buildings.

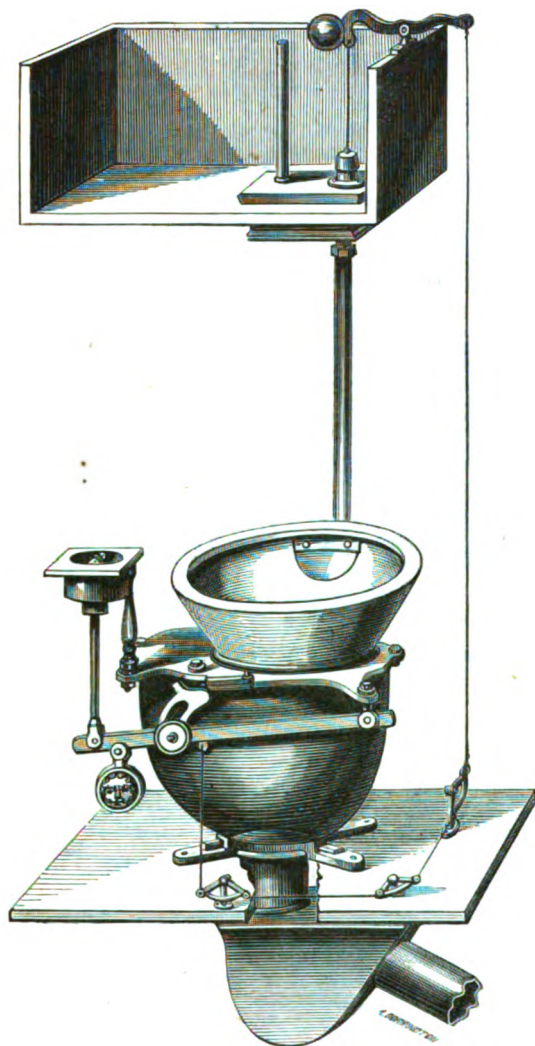
In this closet, the supply valve is opened, and the contents of the basin discharged, by the rising and falling of the seat, which ensures the basin being cleansed by a great flush of water.

Self-acting pan closet as above, with high-pressure valve, and Underhay's Patent Regulator attached, mounted in wood frame. Any number of these closets may be supplied from one cistern or main pipe.

*Extras.*

- |                        |     |     |     |     |
|------------------------|-----|-----|-----|-----|
| a. Blue basin          | ... | ... | ... | ... |
| b. D trap with pipe    | ... | ... | ... | ... |
| c. D trap without pipe | ... | ... | ... | ... |

No cistern, pipe, or woodwork, included in above.



No. 84.

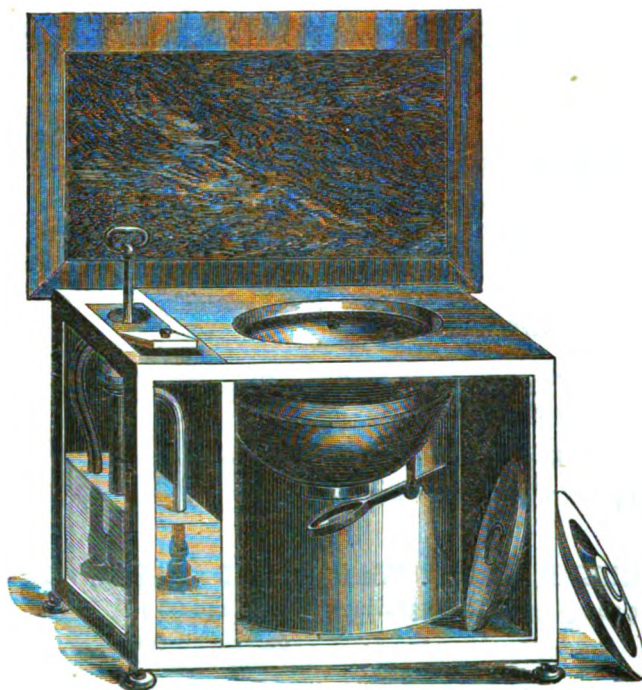


No. 85.

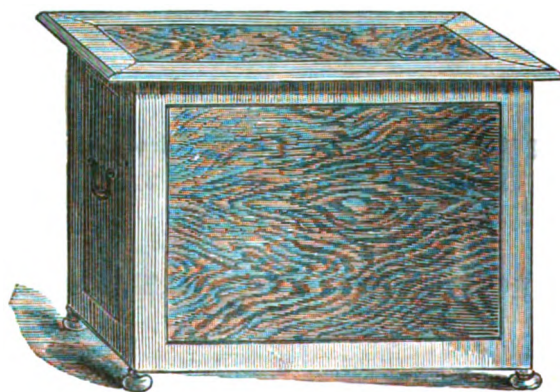


Nos. 86 and 86A.—**FULL SIZE PORTABLE WATER-CLOSET**, in French polished mahogany case, and door in front.

- a.* Ditto, ditto, without door.
- b.* Ditto, ditto, in French polished birch case, and door in front.
- c.* Ditto, ditto, in deal, painted wainscot, without door.
- d.* Small size closet, in French polished mahogany case, without door.
- e.* Small size closet for emigrants, in painted deal case.
- f.* Large size, mahogany, made for fitting to soil pipe, with copper pail.
- g.* Arms to either of above, extra      ...      ...      ...      ...
- h.* Blue basins                      ditto                      ...      ...      ...      ...
- i.* Double action pumps to above, extra      ...      ...      ...
- j.* Cistern and pail, made of copper, extra      ...      ...      ...



No. 86.



No. 86A.

## WASH BASINS AND FITTINGS.

No. 87.—**EARTHENWARE WASH-HAND BASIN.** This basin requires a washer and plug. (See engravings Nos. 89 and 90.)

11, 12, 13, 14, 15, and 16 inches  
outside diameter.

White	...	...	...	...	...	...
White, with overflow arm	...	...	...	...	...	...
Blue	...	...	...	...	...	...
Blue, with overflow arm	...	...	...	...	...	...
White, with gold lines and overflow arm	...	...	...	...	...	...
Indian pearl, with overflow arm	...	...	...	...	...	...

No. 88.—**ENAMELLED IRON WASH-HAND BASIN.** This basin requires a washer and plug. (See engravings Nos. 89 and 90.)  
outside diameter.

No. 89.—**LIGHT WASHER AND PLUG,** without union, for wash-hand basins.

No. 90.—Ditto ditto ditto, with union, for wash-hand basins.

No. 91.—Strong ditto ditto, ditto.

No. 92.—**YELLOW METAL UPRIGHT BASIN COCK.** Screw ferrule and screw bottom.

No. 93.—**FALL-DOWN LEVER BASIN COCK.** Screw ferrule.

Plated	...	...	...	...
Yellow metal	...	...	...	...

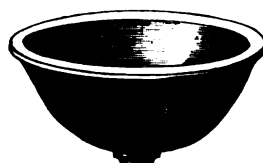
No. 94.—**YELLOW METAL HORIZONTAL BASIN COCK.** Screw ferrule and screw bottom.

No. 95.—**PLATED STANDARD FOR BASIN COCKS,** with fly-nut and union.

No. 96.—**BASIN COCK,** yellow metal, with extra long screwed shank.



No. 87.



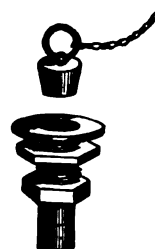
No. 88.



No. 89.



No. 90.



No. 91.



No. 92.



No. 93.



No. 94.



No. 95



No. 96.

## FITTINGS FOR WATER-CLOSETS.

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No. 97.—**SHOE VALVE.**

No. 98.—**BEST ROUND VALVE**, with double flanch.

No. 99.—**ROUND VALVE**, with single flanch. This valve can be re-leathered without unfixing.

No. 100.—**SPINDLE VALVE**, with fly-nut, union, and air-pipe for slate cisterns.  
 $\frac{1}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2-inch.

No. 101.—**ROUND VALVE**, with fly-nut, union, and air-pipe for slate cisterns.

No. 102.—**SEAT-ACTION CLOSET VALVE.**

One of these valves should be fitted in the top, and another in the bottom of service box.

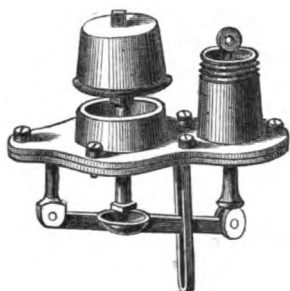
No. 103.—**STRONG COPPER CLOSET PAN.**

$9\frac{1}{2}$  inches diameter.

10           "

No. 104.—**BALL LEVER.**

No. 105.—**UPRIGHT CLOSET CRANK.**



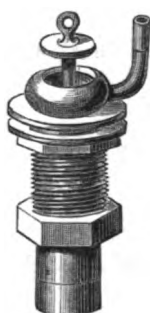
No. 97.



No. 98.



No. 99.



No. 100.



No. 101.



No. 102.



No. 103.



No. 104.



No. 105.

## WATER-CLOSET BASINS, &c.

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No. 106.—**SPARE BLUE-PRINTED EARTHENWARE BASIN**, for Downton ship closets, Nos. 78 and 79.

No. 107.—Ditto ditto for improved ship-valve water-closets, Nos. 77 and 81.

No. 108.—**SPARE WHITE EARTHENWARE BASIN**, for improved ship-valve water-closet, No. 83.

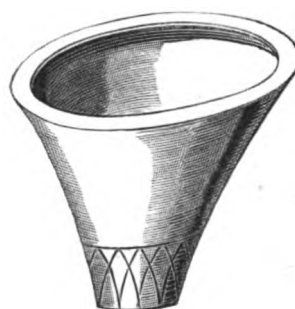
No. 109.—**SPARE ENAMELLED IRON BASIN**, for improved ship-valve water-closet, No. 82.

No. 110.—**ENAMELLED CAST-IRON HOPPER.**





No. 106.



No. 107.



No. 108.



No. 109.



No. 110.

## URINALS.

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No. 111.—**MARbled OR WHITE EARTHENWARE CRADLE URINAL.**

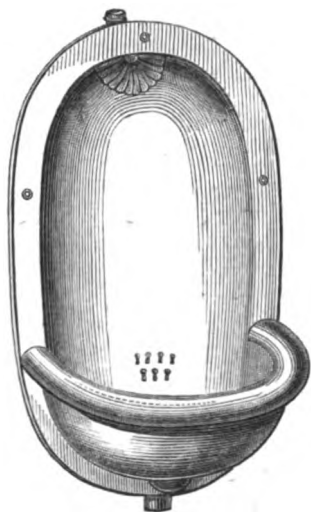
No. 112.—Ditto                      ditto                      ditto                      **FLAT BACK URINAL.**

No. 113.—Ditto                      ditto                      ditto                      **ANGULAR URINAL.**

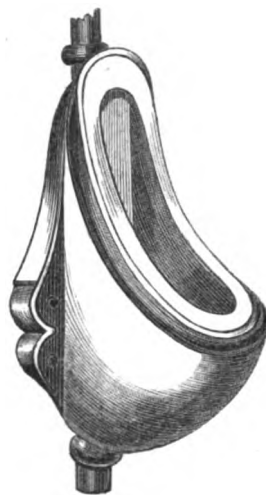
No. 114.—**ENAMELLED IRON HALF-ROUND URINAL.**

No. 115.—**WHITE EARTHENWARE ANGULAR URINAL.**

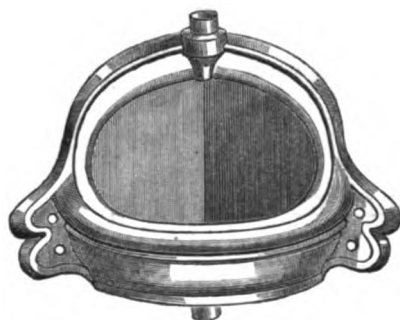
No. 116.—**MARbled OR WHITE LAVATORY.**



No. 111.



No. 112.



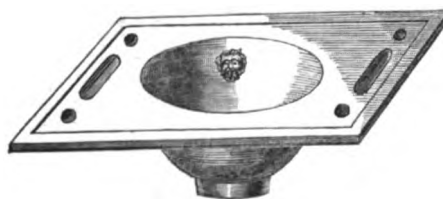
No. 113.



No. 114.



No. 115.



No. 116.

## PLUMBERS' COCKS.

(ALL SCREWED SHANK COCKS TO IRON PIPE GAUGE.)

No. 117.—**SQUARE WAY STOP COCK**, crutch key.

No. 118.—	Ditto	Ditto	square head.
-----------	-------	-------	--------------

No. 119.—	Ditto	Ditto	bow key.
-----------	-------	-------	----------

Rivet bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.

Screw bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.

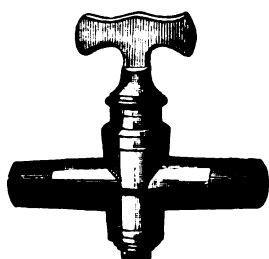
No. 120.—**SQUARE WAY ROUND SHANK BIB COCK**, crutch key.

No. 121.—	Ditto	Ditto	square head.
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No. 122.—	Ditto	Ditto	bow key.
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Rivet bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.

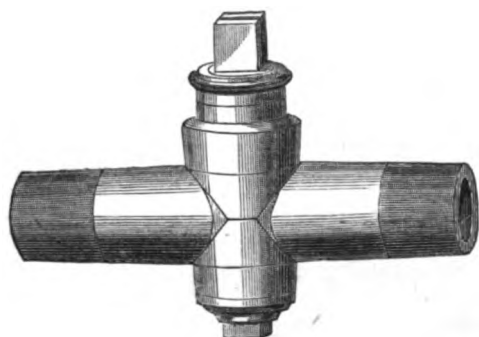
Screw bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.



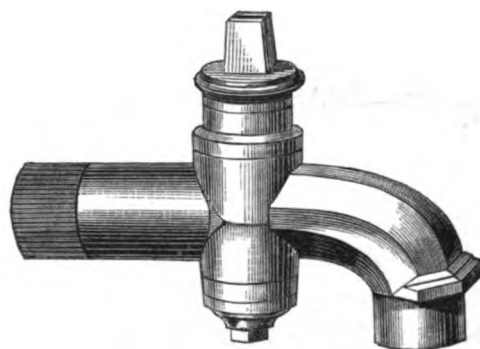
No. 117.



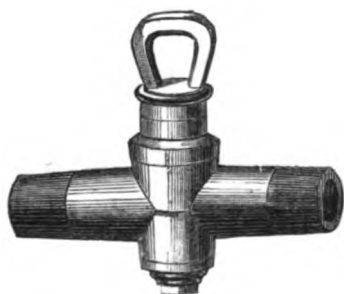
No. 120.



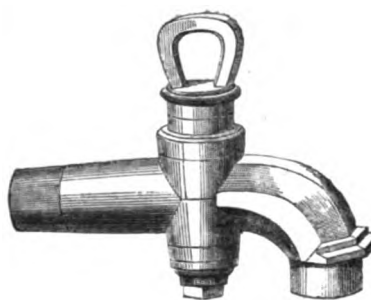
No. 118.



No. 121.



No. 119.



No. 122.

No. 123.—**SQUARE WAY STOP COCK**, with union at one end, crutch key or square head.

Rivet bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1-inch.

Screw bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1-inch.

No. 124.—Ditto, with union at both ends, crutch key or square head.

Rivet bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1-inch.

Screw bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1-inch.

---

No. 125.—**BRASS SPANNER**, for square way cocks.

For  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , and 1-inch cocks.

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No. 126.—**IRON SPANNER**, for square way cocks.

For  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2-inch cocks.

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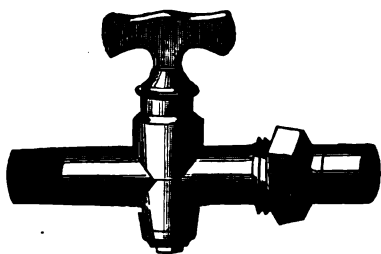
No. 127.—**SQUARE WAY SCREW FERRULE BIB COCK**, crutch key.

No. 128.—                      Ditto                      Ditto                      square head.

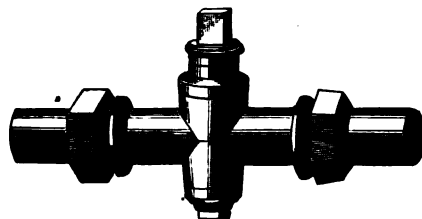
No. 129.—                      Ditto                      •                      Ditto                      bow key.

Rivet bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.

Screw bottom,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2-inch.



No. 123.



No. 124.



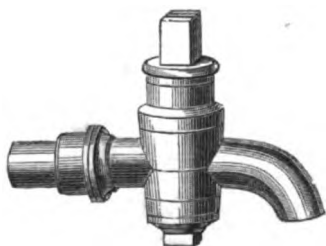
No. 125.



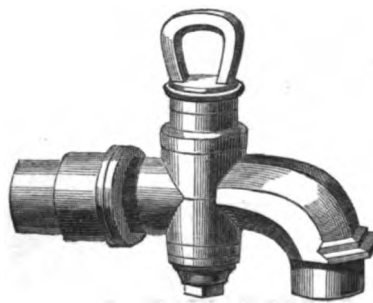
No. 126.



No. 127.



No. 128.



No. 129.

No. 130.—**HORIZONTAL BIB COCK**, with round shank, left hand.

No. 131.—	Ditto	Ditto	right hand.
	Screw bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		

No. 132.—	Ditto	with screw ferrule, left hand.
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No. 133.—	Ditto	Ditto	right hand.
	Screw bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		

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No. 134.—**ROUND SHANK BALL COCK**, left hand.

No. 135.—	Ditto	Ditto	right hand.
	Rivet bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		
	Screw bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		

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No. 136.—**BALL COCK**, with screw ferrule, left hand.

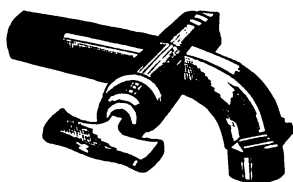
No. 137.—	Ditto	Ditto	right hand.
	Rivet bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		
	Screw bottom, $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and 1-inch.		

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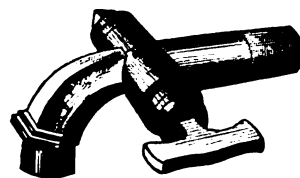
No. 138.—**COPPER WATER BALL**, with stem.

For  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1-inch cocks.

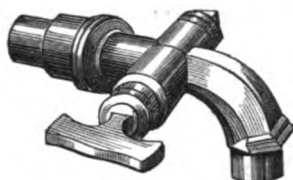




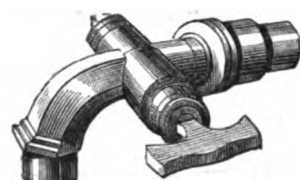
No. 130.



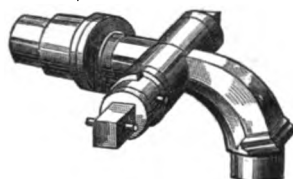
No. 131.



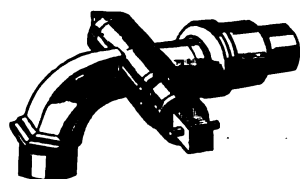
No. 132.



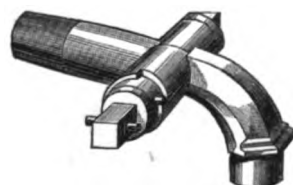
No. 133.



No. 134.



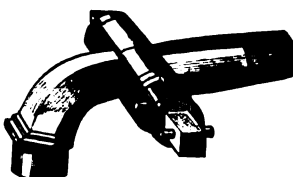
No. 135.



No. 136.



No. 138.



No. 137.

**No. 139.—SQUARE SHANK BIB COCK.**Rivet bottom,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ , 1, and  $1\frac{1}{2}$ -inch.Screw bottom,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ , 1 and  $1\frac{1}{2}$ -inch.**SQUARE BOSSES FOR DITTO,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ , 1, and  $1\frac{1}{2}$ -inch.**

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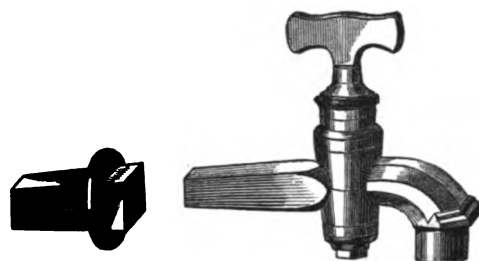
**No. 140.—BUTLER'S PANTRY COCK,** with screw ferrule, and brass spanner screwed on, right hand.**No. 141.—Ditto, ditto, left hand.**Screw bottom.

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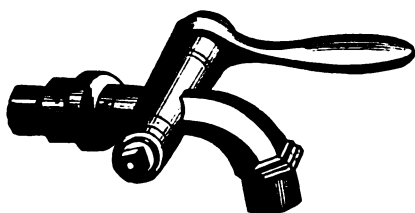
**No. 142.—STEAM COCK AND CONE.**

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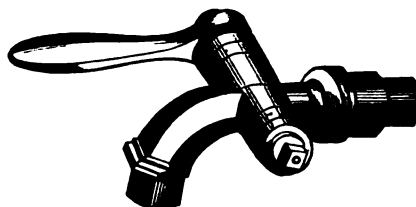
**No. 143.—STEAM COCK AND CONE,** to suit iron pipe.



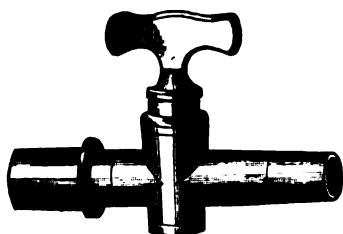
No. 139.



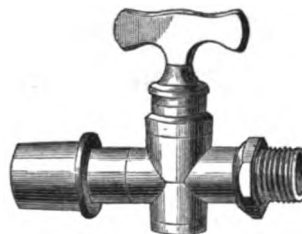
No. 140.



No. 141.



No. 142.



No. 143.

No. 144.—**RANGE BOILER COCK**, with brass spanner.

Rivet bottom	...	...		Screw bottom	...	...	...
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No. 145.—**HOB BOILER COCK**, with brass spanner.

Rivet bottom	...	...		Screw bottom	...	...	...
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No. 146.—**FULL WAY RANGE BOILER COCK**, with brass spanner.

This cock can be safely recommended as a superior article.

Rivet bottom	...	...		Screw bottom	...	...	...
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No. 147.—**FULL WAY HOB BOILER COCK**, with brass spanner.

This cock can be safely recommended as a superior article.

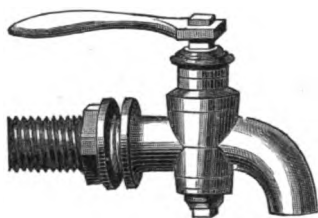
Rivet bottom	...	...		Screw bottom	...	...	...
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No. 148.—**TEA BOILER COCK**.

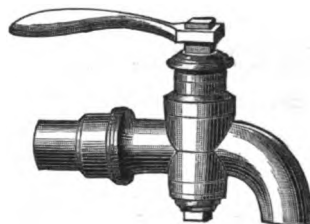
Rivet bottom	...	...		Y.M. Rivet bottom	...	...
Screw bottom	...	...		Y.M. Screw bottom	...	...

No. 149.—**RANGE BOILER COCK**, with screw ferrule.

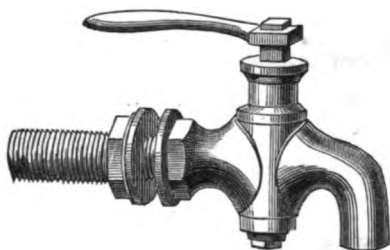
Rivet bottom	...	...		Screw bottom	...	...	...
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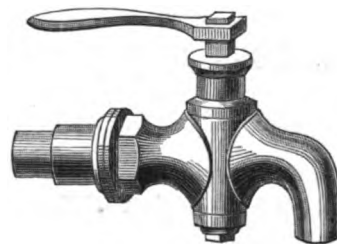
No. 144.



No. 145.



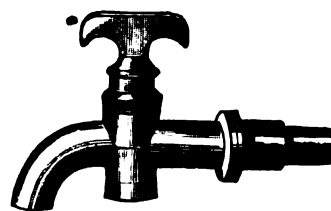
No. 146.



No. 147.



No. 148.



No. 149.

**No. 150.—BUTT COCK.**

Rivet bottom ... ..		Screw bottom ... ..
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**No. 151.—LOCK BUTT COCK.**

Screw bottom ... ..	
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**No. 152.—NIGHT BOTTLING COCK. Strong. Screw bottom.**

Small ... ..		Large ... ..
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**No. 153.—LOCK BOTTLING COCK. Strong. Screw bottom.**

Small ... ..		Large ... ..
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**No. 154.—TAPPING COCK.**

With union ... ..		Without union ... ..
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**No. 155.—BAR TAPPING COCK. Yellow metal.**

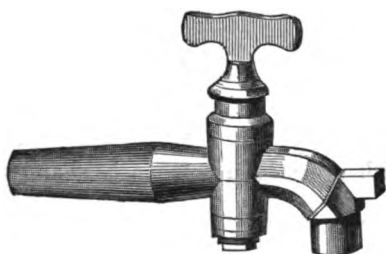
Small ... ..		Large ... ..
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**No. 156.—BAR COCK (yellow metal), with screw ferrule and screw bottom.**

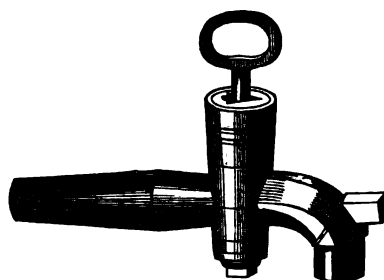
Small ... ..		Large ... ..
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**No. 157.—Ditto ditto, with screw shank and screw bottom.**

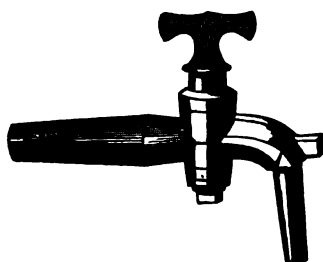
Small ... ..		Large ... ..
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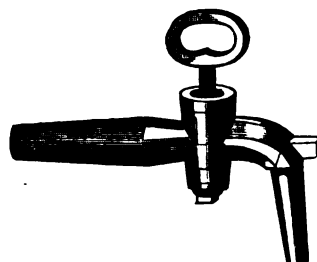
No. 150.



No. 151.



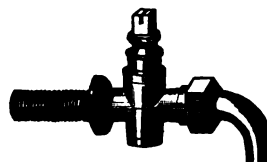
No. 152.



No. 153.



No. 154.



No. 155.



No. 156.



No. 157.

No. 158.—**BEER-ENGINE FRONT COCK**, with ornamental octagon head and barrel.

Yellow metal    ...    ...    ...    ...    ...    ...    ...

No. 159.—Ditto        ditto        ditto,        with ornamental octagon head, and plain barrel.

Yellow metal    ...    ...    ...    ...    ...    ...    ...

No. 160.—Ditto        ditto        ditto, plain.    Yellow metal...

No. 161.—**OCTAGON BAR COCK**.    Yellow metal.

No. 162.—**NIGHT BEER COCK**.    Screw bottom    ...    ...    ...    ...    ...

Large ...    ...    ...        |        Small    ...    ...    ...    ...

No. 163.—**LOCK BEER COCK**.    Screw bottom    ...    ...    ...    ...    ...

Large ...    ...    ...        |        Small    ...    ...    ...    ...

No. 164.—**NIGHT BEER COCK**, small.

Rivet bottom    ...    ...        |        Screw bottom ...    ...    ...

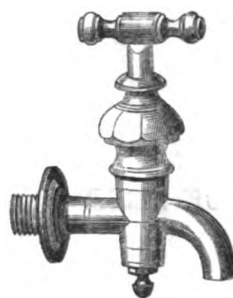
No. 165.—**NIGHT BEER COCK**, large.

Rivet bottom    ...    ...        |        Screw bottom ...    ...    ...





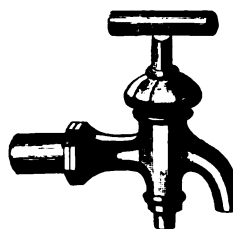
No. 158.



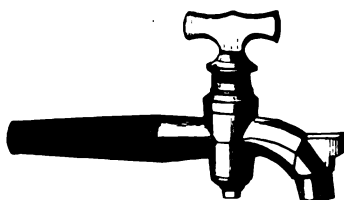
No. 159.



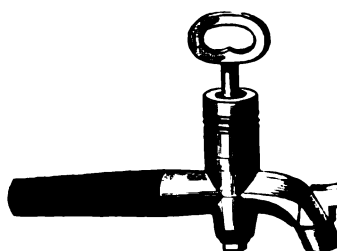
No. 160.



No. 161.



No. 162.



No. 163.



No. 164.



No. 165.

**No. 166.—LOCK BEER COCK, small.**

Rivet bottom	...	...	...	...
Screw ditto	...	...	...	...

**No. 167.—LOCK BEER COCK, large.**

Rivet bottom	...	...	...	...
Screw bottom	...	...	...	...

**No. 168.—TEA BOILER COCK.**

Large.					Small.			
Rivet bottom...	...	...	...		Rivet bottom...	...	...	...
Screw ditto	...	...	...		Screw ditto	...	...	...

**No. 169.—UPRIGHT BASIN COCK.** Yellow metal, screw ferrule, screw bottom.**No. 170.—FALL-DOWN LEVER BASIN COCK.** Screw ferrule.

Plated...	...	...	...		Yellow metal	...	...	...
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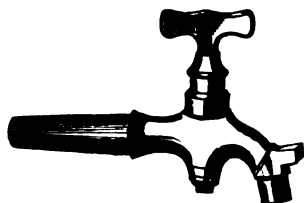
**No. 171.—JAR COCK.** Yellow metal.**No. 172.—HORIZONTAL BASIN COCK,** yellow metal, screw ferrule, screw bottom.



No. 166.



No. 167.



No. 168.



No. 169.



No. 170.



No. 171.



No. 172.

## ROUND-WAY COCKS.

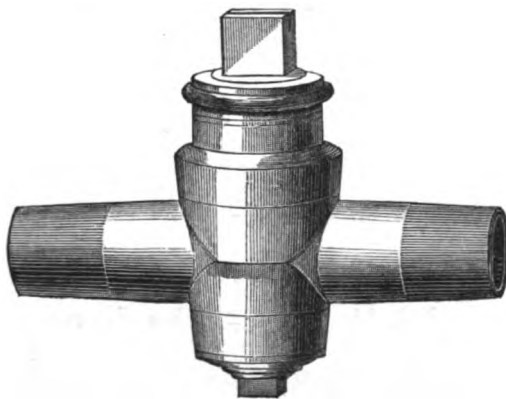
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No. 173.—**ROUND-WAY STOP COCK**, square head; screw bottom.

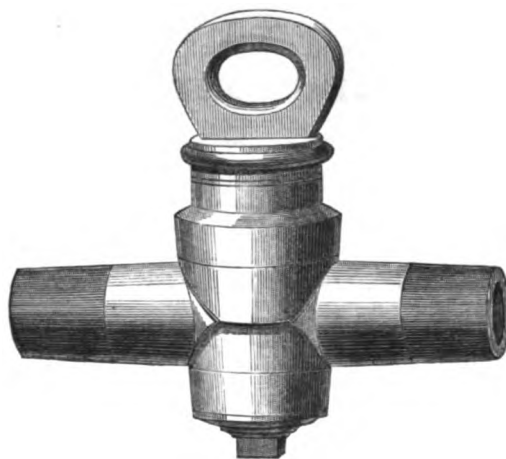
$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches diameter.

No. 174.—Ditto ditto bow key; screw bottom.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches diameter.



No. 173.



No. 174.

No. 175.—**ROUND-WAY BIB COCK**, screw ferrule, bow key ; screw bottom.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches diameter.

No. 176.—Ditto ditto square head ; screw bottom.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches diameter.

No. 177.—**ROUND-WAY BALL COCK**, round shank ; screw bottom.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ , and  $1\frac{1}{2}$ -inch diameter.

No. 178.—Ditto ditto ditto screw ferrule. ditto.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ , and  $1\frac{1}{2}$ -inch diameter.

No. 179.—**COPPER WATER BALL**, for Round-way Cocks.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ , and  $1\frac{1}{2}$ -inch diameter.

No. 180.—**ROUND-WAY GLAND BATH COCK.**

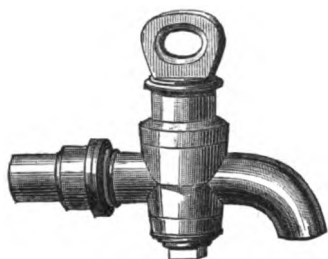
Plain round shank for lead pipe ... ..

Union one end, and other with plain round shank, for lead pipe

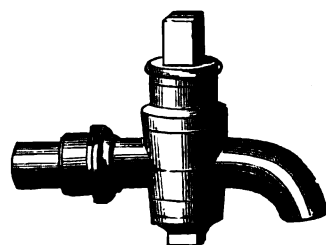
Union each end, for lead pipe ... ..

No. 181.—**BATH COCK LEVER**, ornamental lacquered brass, "Hot," "Cold," "Waste,"

with knob and wrought-iron socket key, for 1-inch cocks.



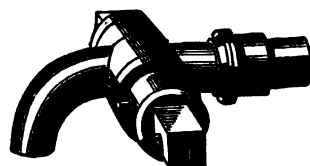
No. 175.



No. 176.



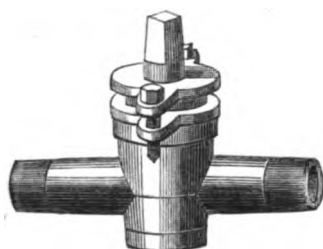
No. 177.



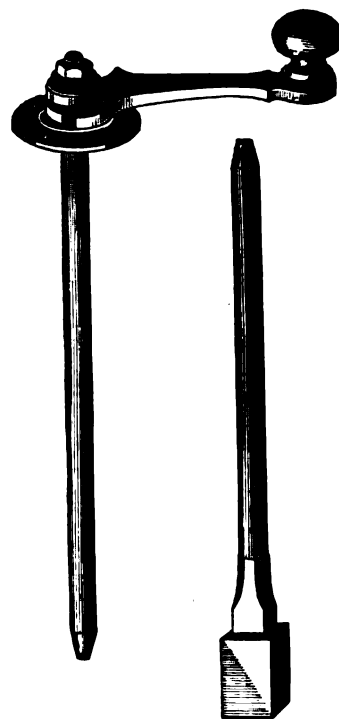
No. 178.



No. 179.



No. 180.



No. 181.

No. 182.—**ROUND-WAY BATH COCK**, with round shank, square head, and screw bottom, 1-inch diameter.

No. 183.—Ditto ditto, with round shank at one end, other end to suit iron pipe, with square head and screw bottom, 1-inch diameter.

No. 184.—Ditto ditto, to suit iron pipe at each end, with square head and screw bottom, 1-inch diameter.

No. 185.—Ditto ditto, with round shank at one end, and union at other, with square head and screw bottom, 1-inch diameter.

No. 186.—Ditto ditto, with union at each end, square head and screw bottom, 1-inch diameter.

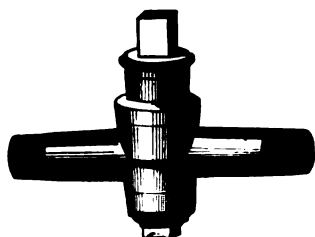
No. 187.—**ROUND-WAY STILL COCK**. Either bow key or square head.

Inside diameter at nose ... ..

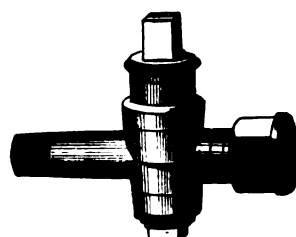
Outside diameter of shank ... ..

No. 187A.—**SUGAR-STILL COCK**, with copper pipe fitted and bolted to ditto. (Pipe made any required length.)

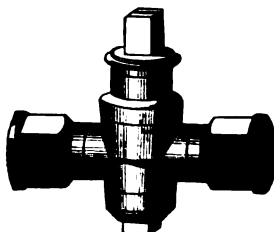




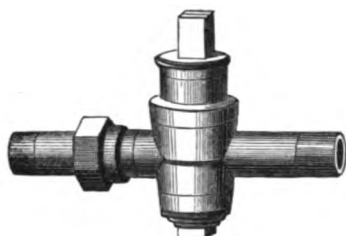
No. 182.



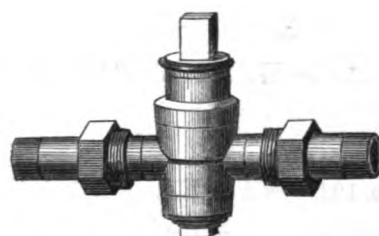
No. 183.



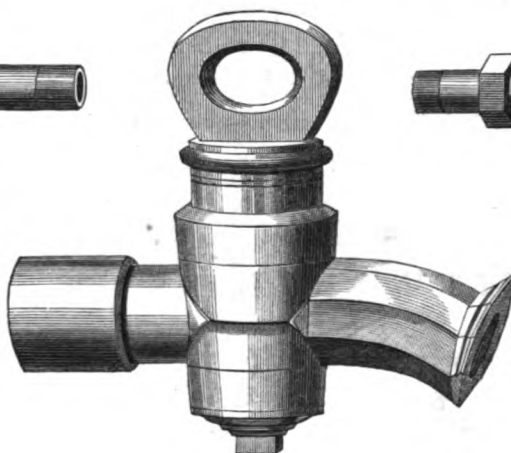
No. 184.



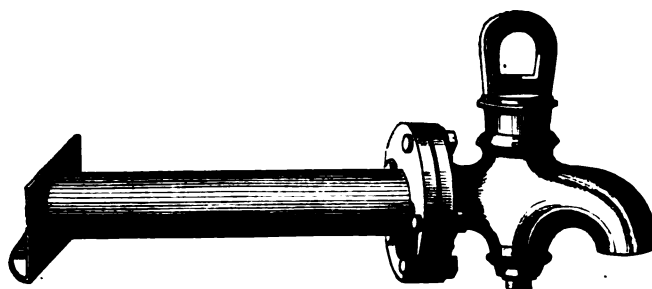
No. 185.



No. 186.



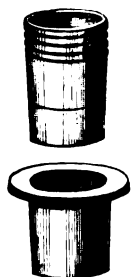
No. 187.



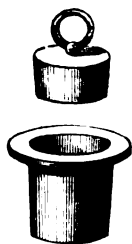
No. 187A.

N

**No. 188.—WASHER AND WASTE.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.**No. 189.—WASHER AND PLUG.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.**No. 190.—WASHER AND WASTE, with fly-nut for slate cistern.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.**No. 191.—WASHER AND PLUG, with fly-nut for slate cistern.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.**No. 192.—WASHER AND WASTE, with fly-nut and union for slate cistern.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ , and 3 inches.**No. 193.—WASHER AND PLUG, with fly-nut and union for slate cistern.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ , and 3 inches.**No. 194.—SHORT SPINDLE VALVE.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.**No. 195.—Ditto ditto screwed for iron pipe.** $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ , and  $1\frac{1}{2}$  inches.**No. 196.—LONG SPINDLE VALVE, leathered, or ground in for hot liquor.** $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , 3,  $3\frac{1}{4}$ , and 4 inches.



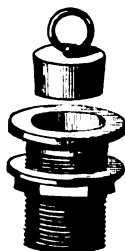
No. 188.



No. 189.



No. 190.



No. 191.



No. 192.



No. 193.



No 194.



No. 195.



No. 196.

No. 197.—**LEAD BELL TRAP**, with brass grate.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , 4,  $4\frac{1}{2}$ , 5, and 6 inches.

No. 198.—**BRASS GRATE**.

$1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{2}$ , 4,  $4\frac{1}{2}$ , 5, and 6 inches.

No. 199.—**STRONG CAP AND SCREW**.

$1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ , and  $2\frac{1}{2}$  inches.

No. 200.—**CAP AND SCREW**.

$1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{4}$ , and  $2\frac{1}{2}$  inches.

No. 201.—**BOILER SCREW**, single nut.

$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.

No. 202.—**LONG BOILER SCREW**, single nut.

$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.

No. 203.—**BOILER SCREW**, double nuts.

$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.

No. 204.—**SLATE CISTERN CONNECTION**, with fly-nut and union.

$\frac{1}{2}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 205.—**UNION JOINT** for lead pipe (slight).

$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.

No. 206.           Ditto           ditto           (strong).

$\frac{1}{2}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , and 2 inches.

No. 207.—**BARREL UNION**, screwed inside for iron pipe.

$\frac{1}{2}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 208.—**CAP AND LINING** (nut screwed for iron pipe).

$\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 209.—**DRIVING FERRULE**.

$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , and 1 inch.

No. 210.—**STRONG FERRULE**, screwed for iron mains, with union for attaching lead pipe.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 inch.

No. 211.—**ELBOW FERRULE**, screwed for iron mains, with union for attaching lead pipe.

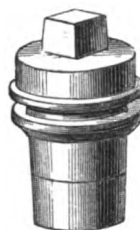
$\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 inch.



No. 197.



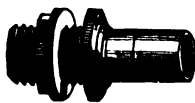
No. 198.



No. 199.



No. 200.



No. 201.



No. 202.



No. 203.



No. 204.



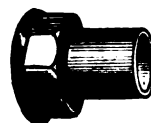
No. 205.



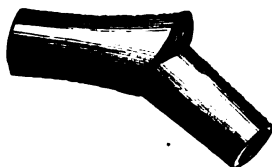
No. 206.



No. 207.



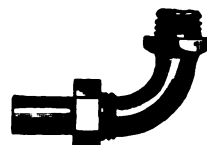
No. 208.



No. 209.



No. 210.



No. 211.

## STEAM FITTINGS.

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No. 212.—**IRON STOP VALVE**, with flange at each end, gun-metal valve, seat, and gland.

2, 3, 4, 5, 6, and 8 inches.

No. 213.—**IRON BIB VALVE**, with flange, gun-metal valve, seat, and gland.

2, 3, 4, 5, 6, and 8 inches.

No. 214.—**GUN-METAL STOP VALVE**, screwed for iron pipe, with wheel on top.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

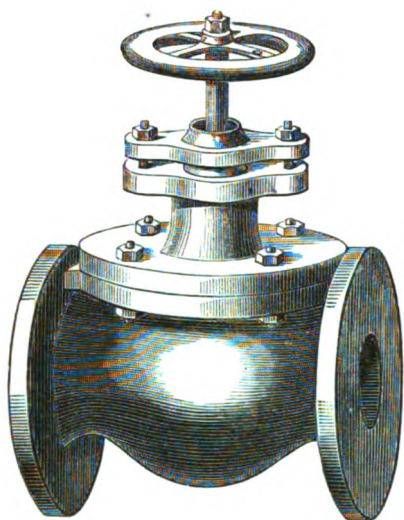
No. 215.—**GUN-METAL BIB VALVE**, with long screwed shank, fly-nut, wheel on top, &c.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 inch.

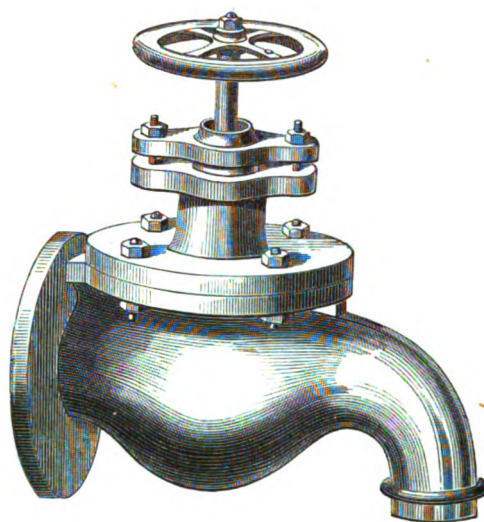
No. 216.—**GUN-METAL BIB VALVE** for iron pipe, with wheel on top, &c.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 inch.

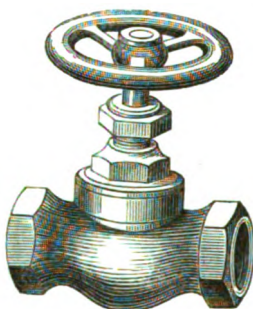
The whole of these valves are constructed for steam, hot water, and high pressure.



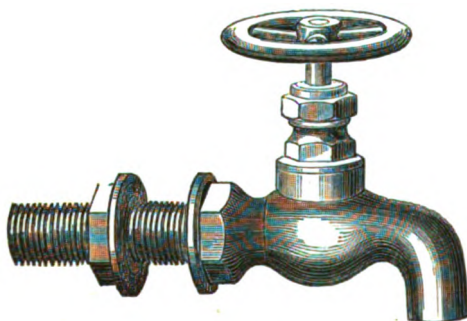
No. 212.



No. 213.



No. 214.



No. 215.



No. 216.

No. 217.—**GUN-METAL FLANGED COCK**, with hollow key.  
2,  $2\frac{1}{2}$ , and 3 inches.

No. 218.            Ditto            Ditto            with hollow key.  
2,  $2\frac{1}{2}$ , and 3 inches.

No. 219.—**GUN-METAL GLAND COCK**, with hollow key, and flanges at right angles.  
2,  $2\frac{1}{2}$ , and 3 inches.

No. 220.            Ditto            Ditto            with hollow key and flanged inlet.  
2,  $2\frac{1}{2}$ , and 3 inches.

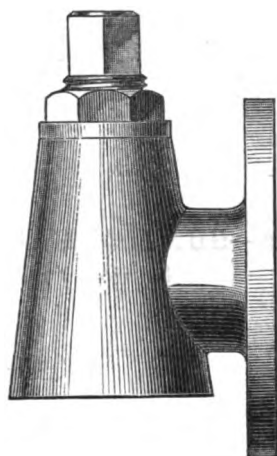
No. 221.            Ditto            Ditto            with solid bottom, and flanged inlet and outlet.  
2,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ , 3,  $3\frac{1}{2}$ ,  $3\frac{1}{2}$ ,  $3\frac{3}{4}$ , and 4 inches.

No. 222.—**GUN-METAL SCREW BOTTOM STOP COCK**, with flanges, and square head to key.  
2,  $2\frac{1}{2}$ , and 3 inches.

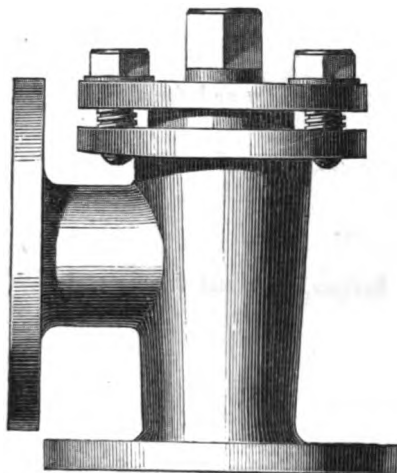




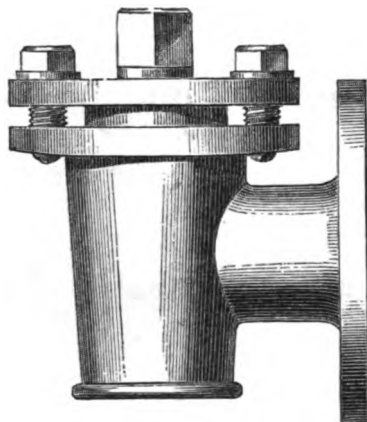
No. 217.



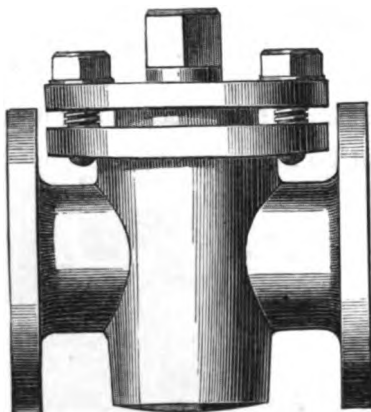
No. 218.



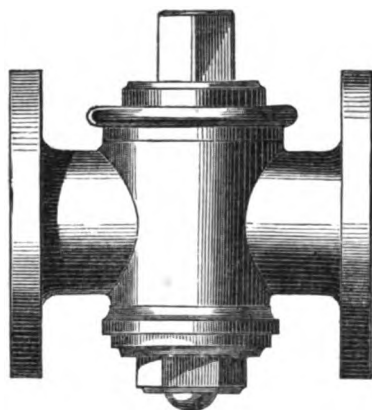
No. 219.



No. 220.



No. 221.



No. 222.

No. 223.—**GUN-METAL STEAM COCK**, solid bottom and gland, male and female ends for iron pipe.

$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 224.            Ditto            Ditto            solid bottom and gland, female each end for iron pipe.

$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 225.            Ditto            Ditto            screw bottom, male and female ends for iron pipe.

$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 226.            Ditto            Ditto            screw bottom, male and female ends for iron pipe.

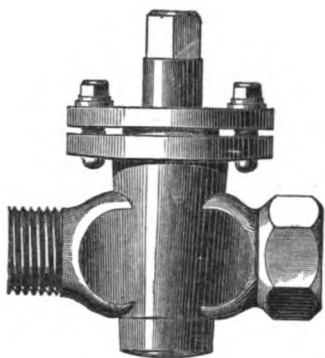
$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 227.            Ditto            Ditto            solid bottom and screwed cap, female each end for iron pipe.

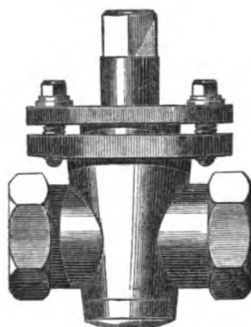
$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 228.            Ditto            Ditto            screw bottom, female each end for iron pipe.

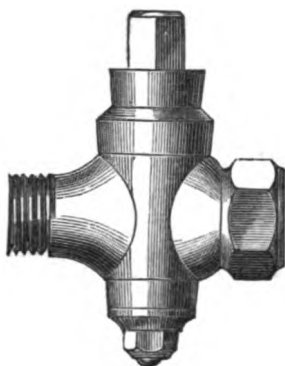
$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.



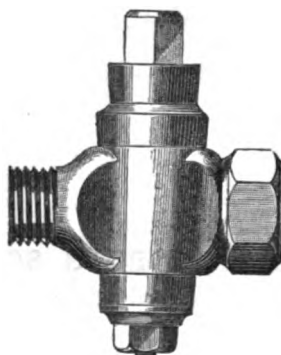
No. 223.



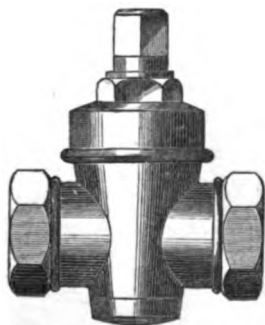
No. 224.



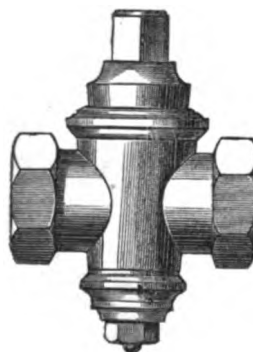
No. 225.



No. 226.



No. 227.



No. 228.

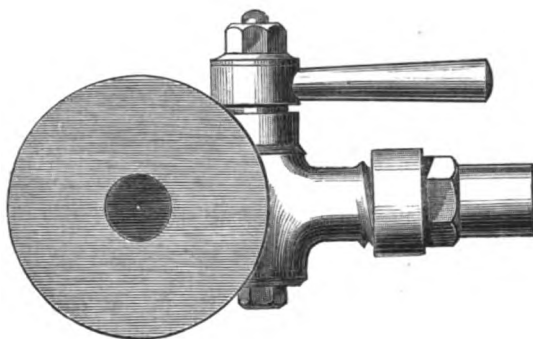
Nos. 229 and 229A.—**GUN-METAL STEAM COCK**, with bent nose and flange at one end, and union joint at other, to suit iron or copper pipe.

1,  $1\frac{1}{2}$ , and 2 inches.

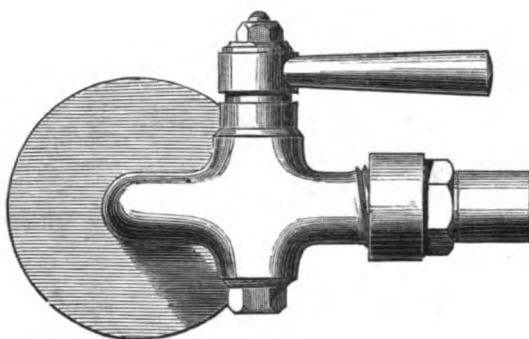
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No. 230.—**EXTRA STRONG SCREWED BOTTOM STOP COCK**, with flanges, and square head on key.

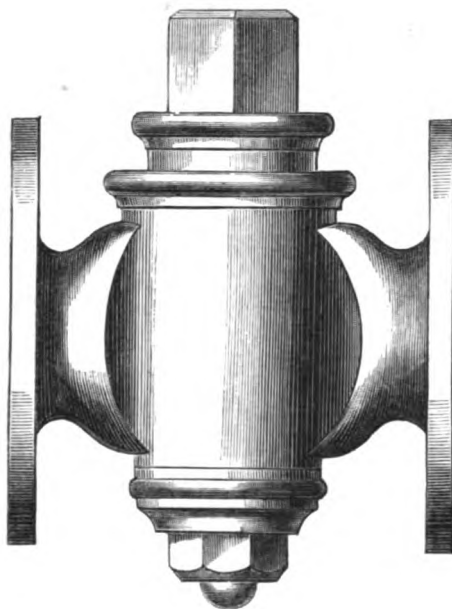
2,  $2\frac{1}{2}$ , and 3 inches.



No. 229.



No. 229 A.



No. 230.

$\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ , and  $\frac{3}{4}$  inch.

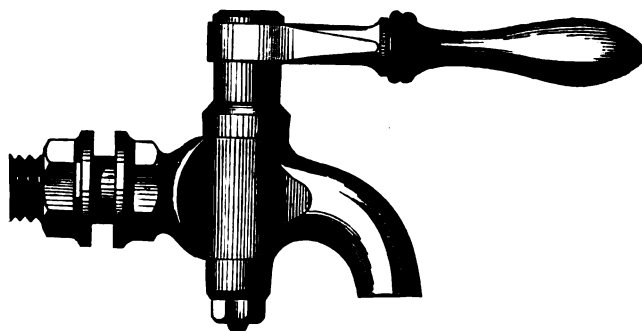
$\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ , and  $\frac{3}{4}$  inch.

$\frac{1}{2}$  and  $\frac{3}{4}$  inch.

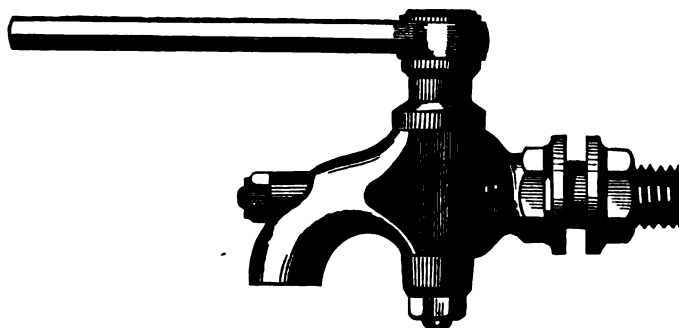
$\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$  inch.

$\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$  inch.

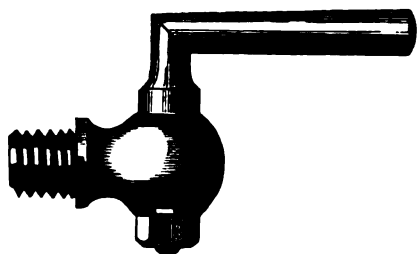
Digitized by Google



No. 231.



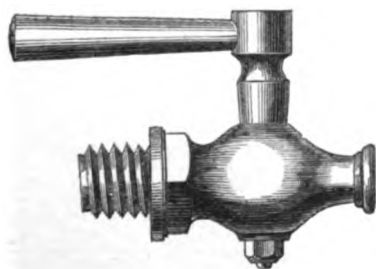
No. 232.



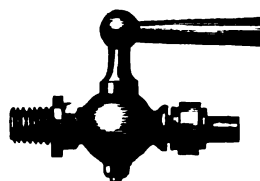
No. 233.



No. 234.



No. 235.



No. 236.

No. 237.—**GUN-METAL VACUUM VALVE**, screwed for iron pipe.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1 inch.

No. 238.—**GUN-METAL GROUND UNION JOINT FOR STEAM.**

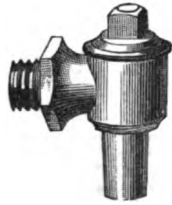
$\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 239.—**GUN-METAL GLOBE BARREL PET COCK**, with crutch key, screwed to  $\frac{1}{8}$ -inch iron pipe guage.

No. 240.—**GUN-METAL TALLOW SYRINGE**, with cock.

No. 241.—**EXTRA STRONG GUN-METAL WATER GUAGE**, with cocks, handles, clearing screws, union joint at bottom, and flanges for attaching to boiler. Government pattern.





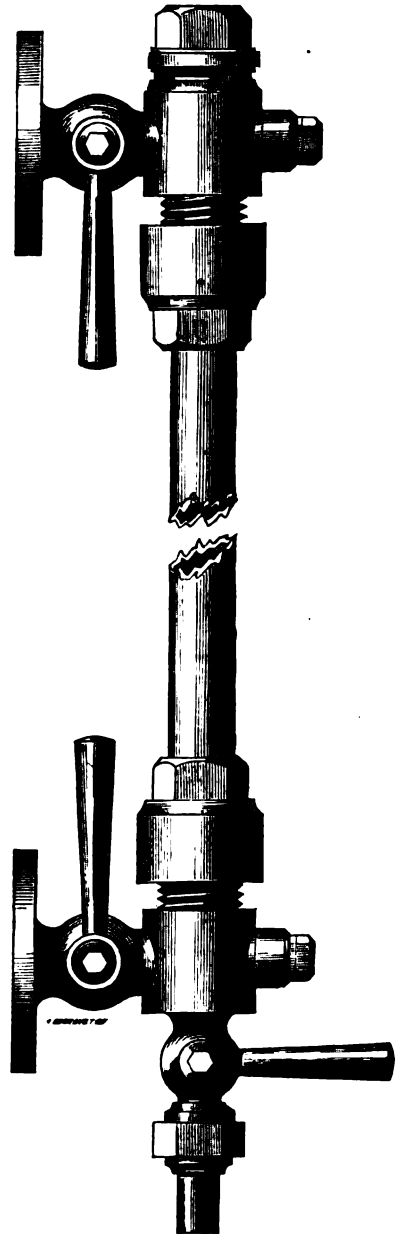
No. 237.



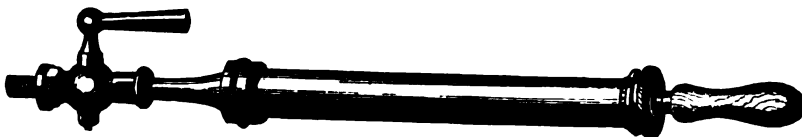
No. 238.



No. 239.



No. 241.



No. 240.

No. 242.—**EXTRA STRONG GUN-METAL WATER GUAGE**, with cocks, handles, clearing screws, union joint at bottom, unions and back nuts for attaching to boiler.

$\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1-inch glass.

No. 243.—**GUN-METAL WATER GUAGE**, with cocks, handles, clearing screws, union joint at bottom, unions and back nuts for attaching to boiler.

For  $\frac{1}{8}$ ,  $\frac{3}{8}$ , and  $\frac{1}{2}$ -inch glass.

Glasses for water guages.

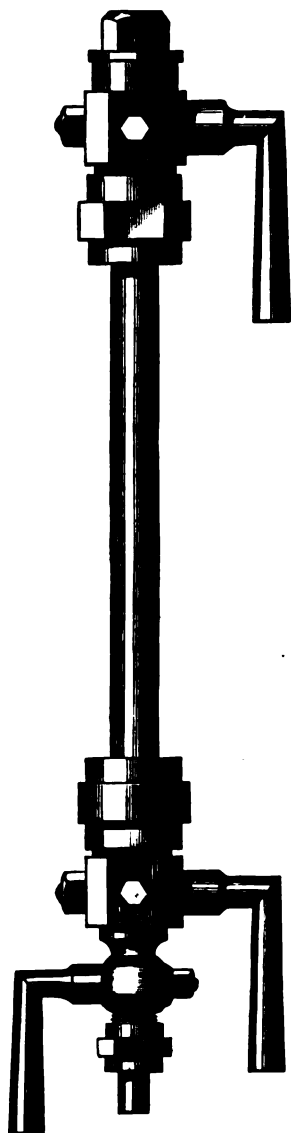
$\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1-inch diameter.

Vulcanized india-rubber packing rings.

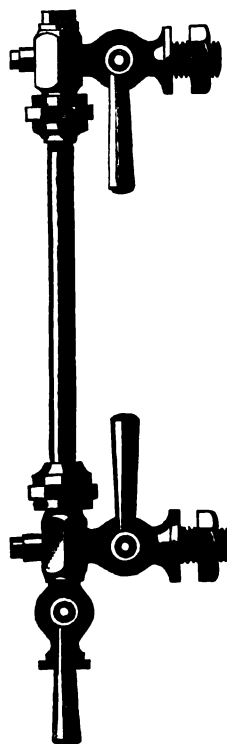
For  $\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1-inch glasses.

No. 244.—**LARGE GUN-METAL GUAGE COCK**, with clearing screw, and flange for attaching to boiler.

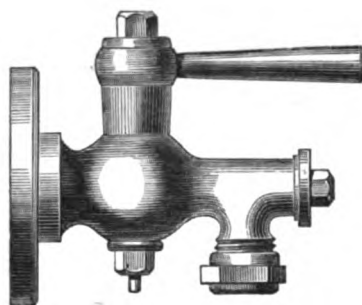
This is a very strong and superior article, and is the Government pattern.



No. 242.



No. 243.



No. 244.

No. 245.—**BRIGHT BRASS SYRINGE, FOR ENGINEERS' USE.**

No. 246.—**SCHAEFFER'S PATENT STEAM GUAGE.**

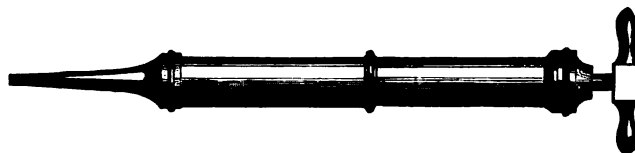
No. 247.—**SCHAEFFER'S PATENT VACUUM GUAGE.**

No. 248.—**BOURDON'S PATENT STEAM GUAGE.**

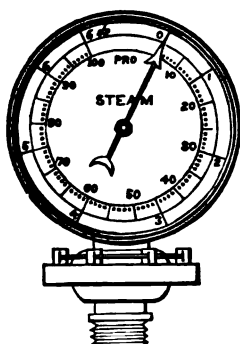
In polished brass case, 7 inches diameter...	...	...
Ditto ditto 5 inches diameter...	...	...
In japanned iron case	...	...

No. 249.—**BOURDON'S PATENT VACUUM GUAGE.**

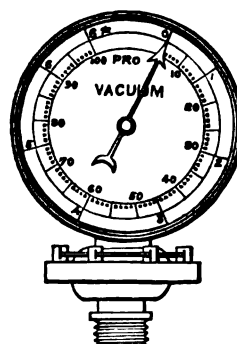
In polished brass case, 7 inches diameter...	...	...
Ditto ditto 5 inches diameter...	...	...



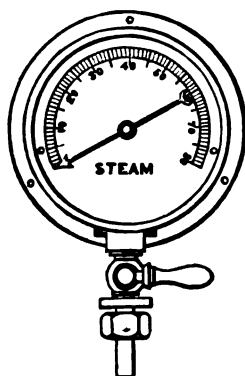
No. 245.



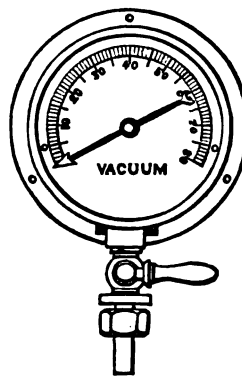
No. 246.



No. 247.



No. 248.



No. 249.

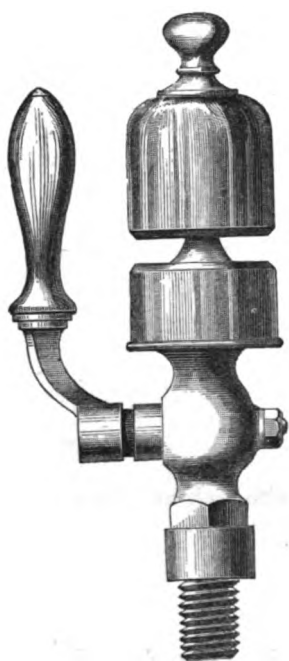
**No 250.—GUN-METAL STEAM WHISTLE.**

2, 2½, 3, and 4 inches.

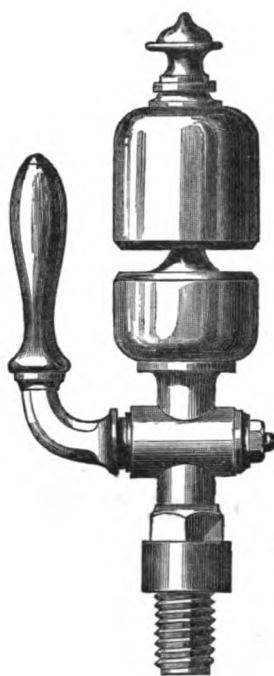
No. 251                      Ditto                      Ditto.  
2, 2½, 3, and 4 inches.

No. 252.                      Ditto                      Ditto  
2, 2½, 3, and 4 inches.

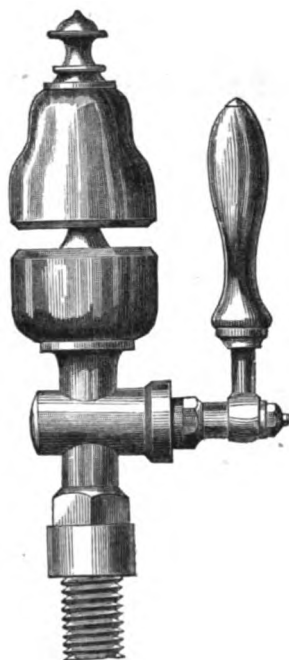
No. 253.                      Ditto                      Ditto.  
2, 2½, 3, and 4 inches.



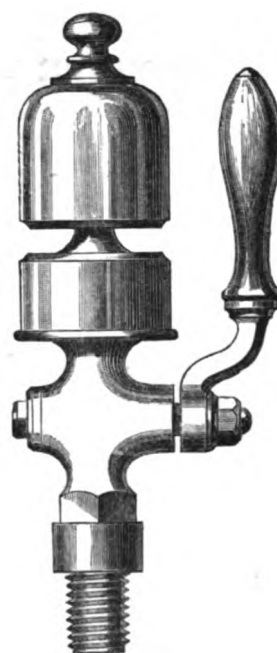
No. 250.



No. 251.



No. 252.



No. 253.

No. 254.—**GUN-METAL GREASE CUP**, with cock and loose cover.

2, 2½, 3, 3½, and 4 inches.

No. 255.—**GUN-METAL GLOBE GREASE CUP**, with cock and screwed-down cover.

2, 2½, 3, 3½, and 4 inches.

No. 256.            Ditto            Ditto            Ditto            with cock and crutch handle.

2, 2½, 3, 3½, and 4 inches.

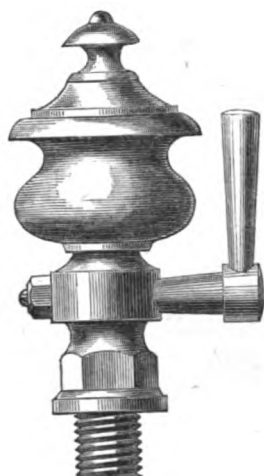
No. 257.—**GUN-METAL HIGH PRESSURE DOUBLE GREASE CUP**, with  
two cocks.

2, 2½, 3, 3½, and 4 inches.

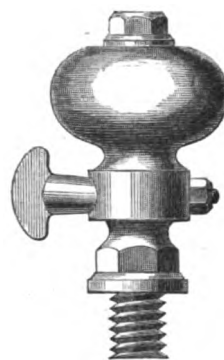
No. 258.—**GUN-METAL GREASE CUP**, hollow plug.

Small	...	...	...
Large	...	...	...

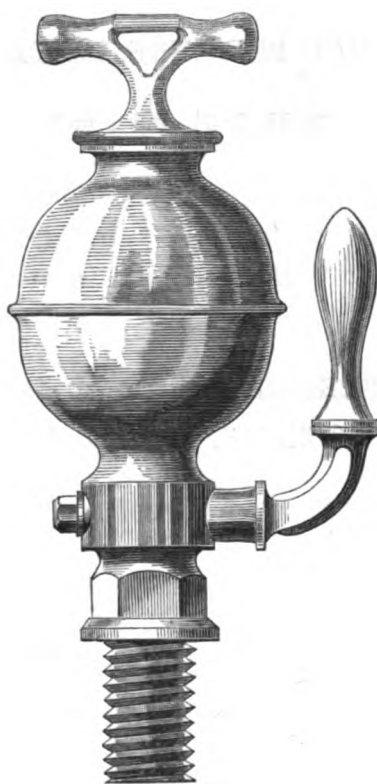




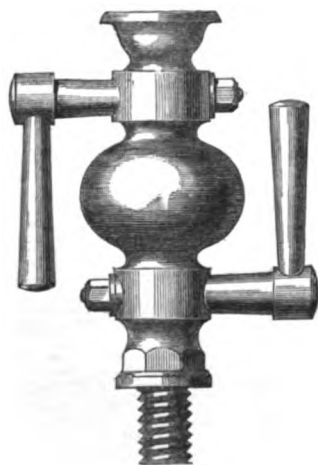
No. 254.



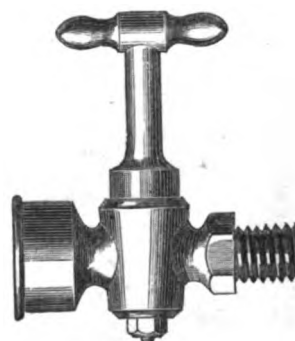
No. 255.



No. 256.



No. 257.



No. 258.

No. 259.—**GUN-METAL HIGH PRESSURE DOUBLE GREASE CUP**, with two cocks.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.

No. 260.

Ditto

Ditto

Ditto.

2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.

No. 261.—**GUN-METAL GREASE CUP**, with cock and cover.

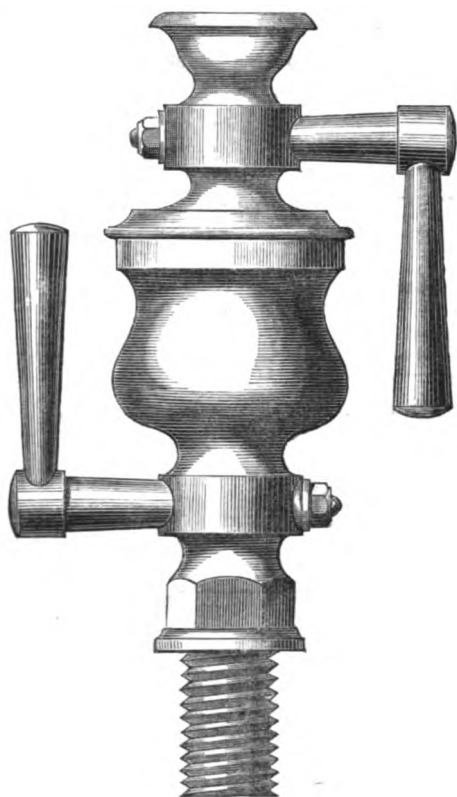
2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.

No. 262.

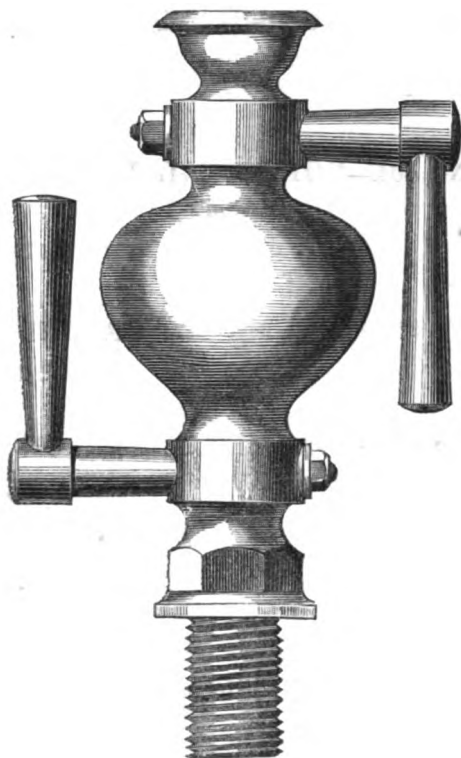
Ditto

Ditto.

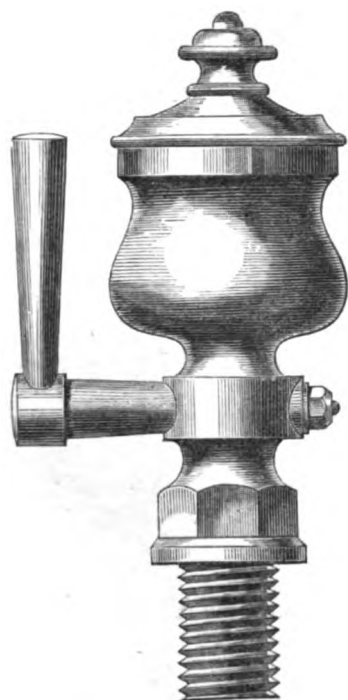
2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.



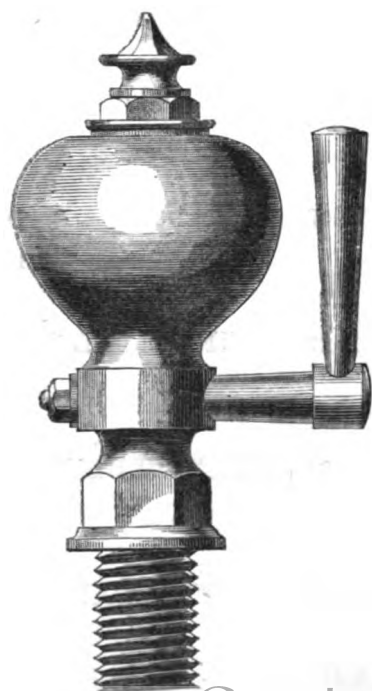
No. 259.



No. 260.



No. 261.



No. 262.

No. 263.—**GUN-METAL ROUND LUBRICATOR**, with cover and stem. (Barton's Patent.)

$1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.

No. 264.—**GUN-METAL HALF ROUND LUBRICATOR**, with cover and stem. (Barton's Patent.)

$1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$ , and 4 inches.

No. 265.—**GUN-METAL GROUND UNION JOINT FOR STEAM.**

$\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

No. 266.—**GUN-METAL SYPHON OR LUBRICATOR.**

1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3 inches.

No. 267.	Ditto	Ditto	Ditto.
			1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 2, $2\frac{1}{2}$ , and 3 inches.

No. 268.	Ditto	Ditto	Ditto.
			1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 2, $2\frac{1}{2}$ , and 3 inches.

No. 269.	Ditto	Ditto	Ditto.
			1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 2, $2\frac{1}{2}$ , and 3 inches.

No. 270.	Ditto	Ditto	Ditto.
			1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 2, $2\frac{1}{2}$ , and 3 inches.

No. 271.	Ditto	Ditto	Ditto.
			1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 2, $2\frac{1}{2}$ , and 3 inches.

No. 272.—**GUN-METAL EXPANSION JOINT**, with flanges; screwed for iron pipe.

$\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

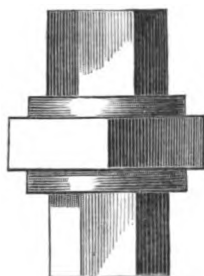
No. 273.—**IRON PLUMMER BLOCK**, with gun-metal bearings.

All sizes.

No. 274.—**GUN-METAL STUFFING BOX FOR FEED APPARATUS.**



No. 263.



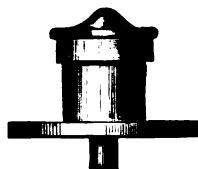
No. 265.



No. 264.



No. 266.



No. 267.



No. 268.



No. 269.



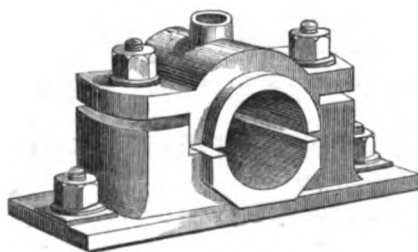
No. 270.



No. 271.



No. 272.



No. 273.



No. 274.

Nos. 275, 275A, and 275B.—**DEWIES' PATENT SELF-ACTING LUBRICATOR**,  
for lubricating shafting and every description of machinery.

The want of some efficient system of lubricating machinery has long been felt by all engineers and machinists; Mr. Dewies has at length supplied this great want to the mechanical world, by an apparatus constructed upon the most scientific principles, and combining the greatest simplicity, with the highest state of perfection; and while it effects an enormous saving in lubricating oils, is most perfect in its operation, preventing heating, and consequent injury to machinery, too frequently experienced by the present imperfect systems.

The apparatus consists of a glass globe, into the neck of which a cork is tightly fitted, with a small hole pierced through the centre; a tin tube, several inches long, is fitted to the cork, so as to project about half an inch within the globe; in the top of this tube, or the part within the globe, is a small hole, and in the side, about a quarter of an inch from the top, is another, and although almost imperceptible, is sufficiently large for lubricating journals running at the highest speed, and by which a never-failing supply of oil is obtained.

The principle by which the oil flows out of the globe is very simple and ingenious.

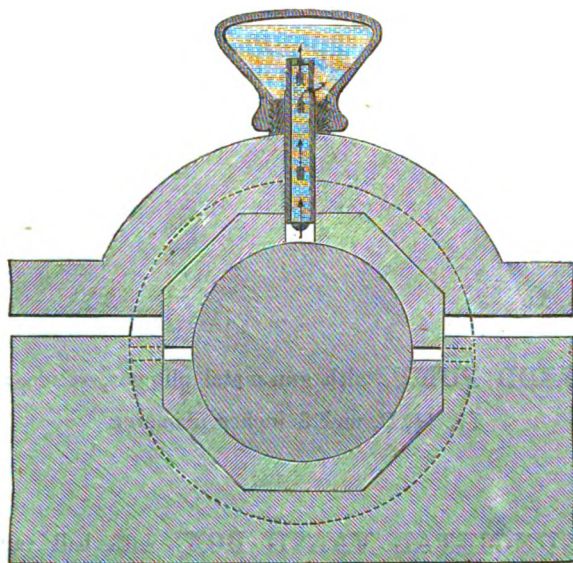
When the apparatus is placed on the plummer block (see drawing), it will be seen the tube comes within a short distance of the journal, and which should be within the one-eighth or quarter of an inch. When the journal is put in motion, a current of air passes up the tube into the globe, which is readily detected by small bubbles rising from the top of the tube, which succeed each other more quickly or slowly, according to the speed of the shaft or journal. Each bubble of air of course displaces a certain quantity of oil, which, passing down the tube, falls upon the journal, and by this simple means receives that quantity of oil which is requisite to keep it perfectly lubricated.

The globe must never be filled quite full. (See drawing.)

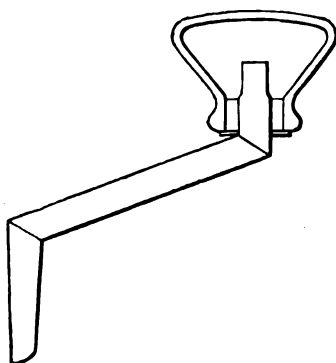
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#### THE ADVANTAGES OF DEWIES' PATENT LUBRICATOR.

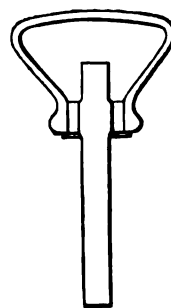
1. Its great simplicity, and easy application to shafting and every description of machinery.
2. A saving of from 80 to 90 per cent. of oil.
3. A great saving in labour, as the lubricator, when supplied with oil, will not require renewing from a week to a month, according to the speed of the machinery, as the oil only flows when the machinery is in motion, and ceases altogether when it is stopped.
4. A great saving in the wear and tear of machinery, by keeping the shafts and journals properly lubricated.
5. Its applicability to shafts and journals of all sizes, and running all speeds, as the oil flows according to the speed of the shaft or journal.
6. Great cleanliness to both machinery and factories.



No. 275.



No. 275A.

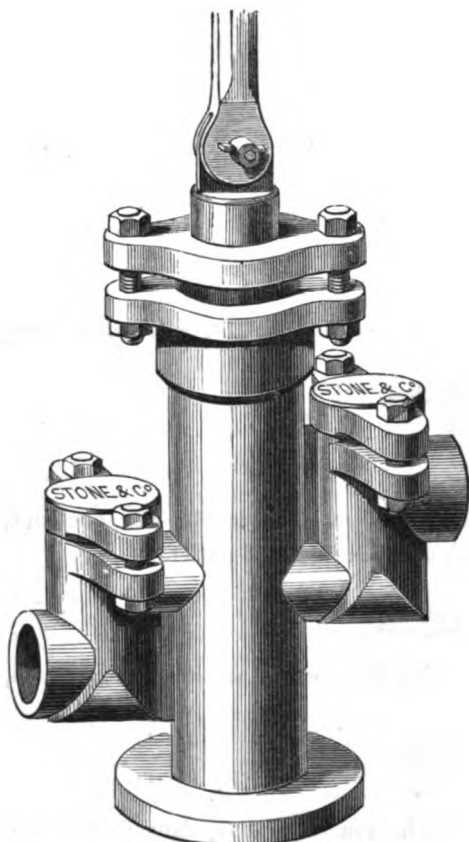


No. 275B.

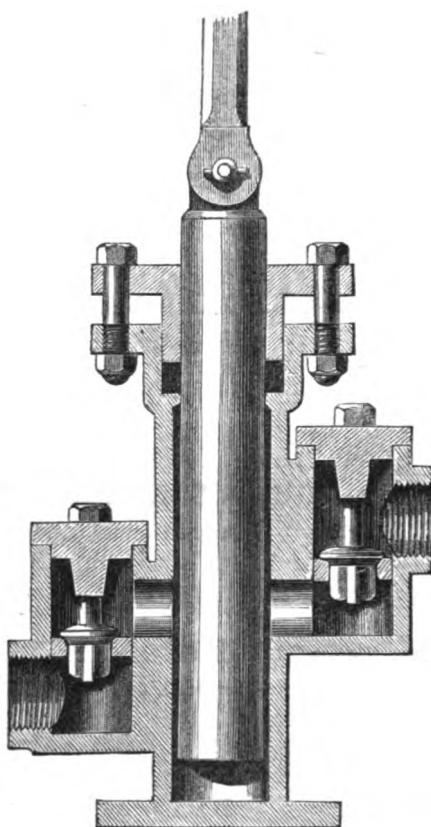
Nos. 276 and 276A.—**FEED PUMP**, with gun-metal plunger, valves, and gland.  
1 $\frac{1}{4}$ , 1 $\frac{1}{2}$ , 2, and 3 inches diameter.

Nos. 277 and 277A.—**GUN-METAL VALVE BOX**, with ball valve, screwed cap and guard, inlet and outlet screwed to iron pipe guage.  
 $\frac{3}{4}$  and 1 inch diameter.

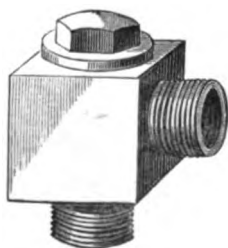




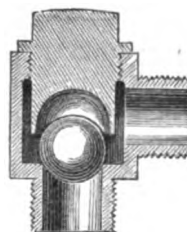
No. 276.



No. 276A.



No. 277.



No. 277A.

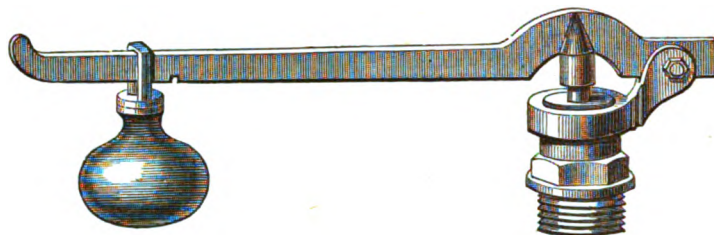
No. 278.—**GUN-METAL SAFETY VALVE**, with lever and weight, screwed to iron pipe guage.

$\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2 inches.

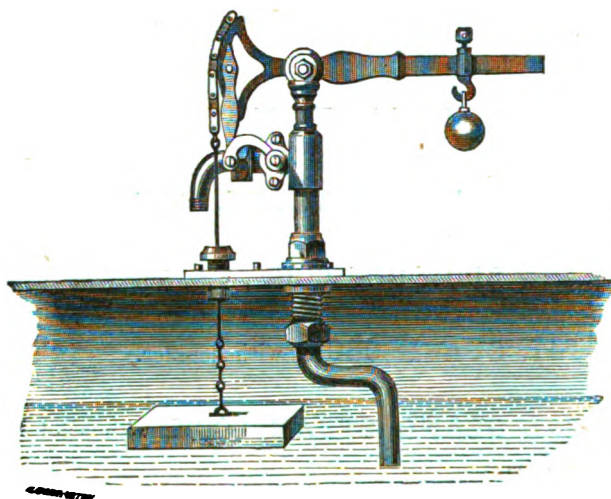
No. 279.—**GUN-METAL FEED APPARATUS**, with float, chain, stuffing-box, quadrant, jointed standard, lever and weight, with union at inlet and outlet.

No. 280.—**GUN-METAL SAFETY VALVE**, with float, alarm whistle, chain, wheel, standard, and weight.

No. 281.        Ditto        Ditto        Ditto        with iron valve box, flanged inlet and outlet, wrought-iron lever, and weight.



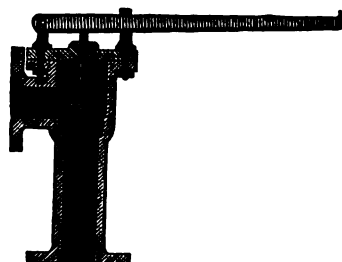
No. 278.



No. 279.



No. 280.



No. 281.

## FITTINGS FOR STEAM CRANES.

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No. 282.—**GUN-METAL STARTING VALVE**, with flanges and wheel complete.

No. 283.—**GUN-METAL BLOW-OFF COCK**, with flange, and screwed nose for union.

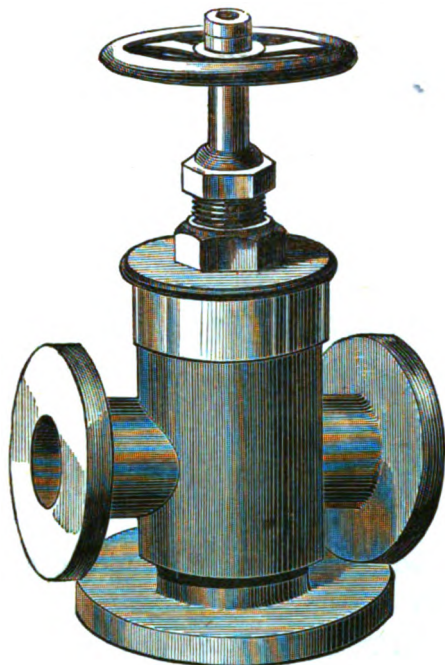
No. 284.—**GUN-METAL GUAGE COCK**, with spanner.

No. 285.—**GUN-METAL GLAND STEAM COCK**, with solid bottom, iron spanner,  
&c., complete.

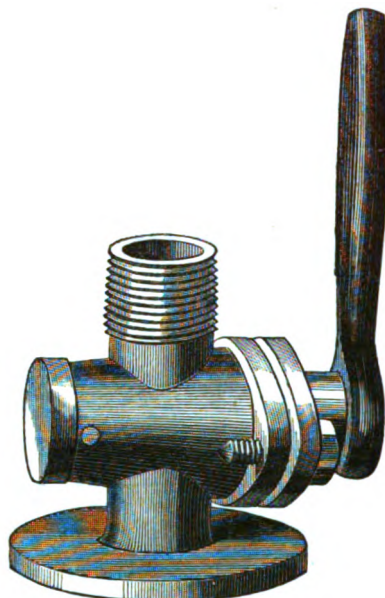
No. 286.—**GUN-METAL CYLINDER COCK**.

No. 287.—**GUN-METAL GREASE CUP AND COCK**.

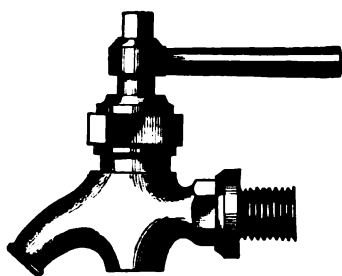
No. 288.—**SCHAFFER'S STEAM PRESSURE GUAGE**.



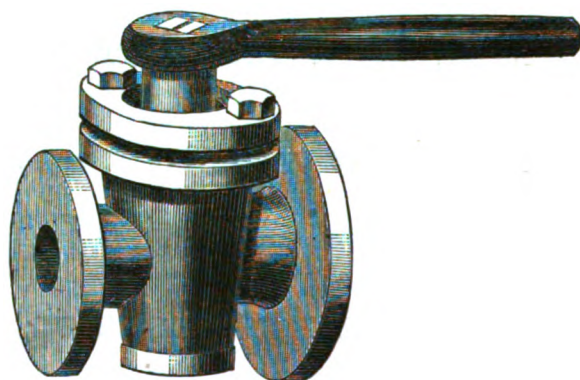
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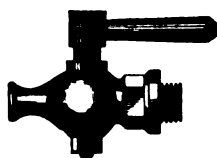
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No. 284.



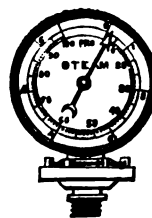
No. 285.



No. 286.



No. 287.



No. 288.

## SLUICE VALVES, &c.

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Nos. 289 and 289A.—**IRON SLUICE VALVE**, for water mains, &c., fitted with gun metal spindle, valve, and facings complete.

Made to suit socket or flange pipes,

2 inches and upwards.

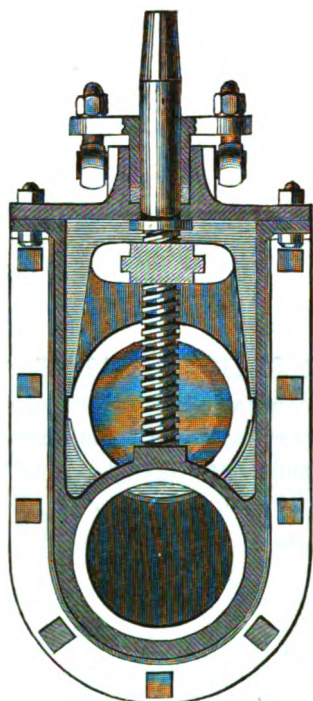
No. 290.—**GUN-METAL SLUICE VALVE**, for inlet at ship's side, 2 inches.

No. 291.—**IRON VALVE COCK**, fitted with gun-metal screwed spindle, valve, and seat.

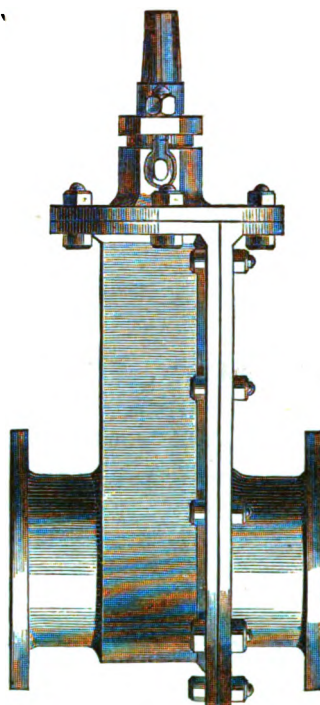
1½, 2, 2½, 3, 3½, 4, 5, 6, and 6½ inches.

No. 291A.—**VALVE COCK AS ABOVE**, but all gun-metal.

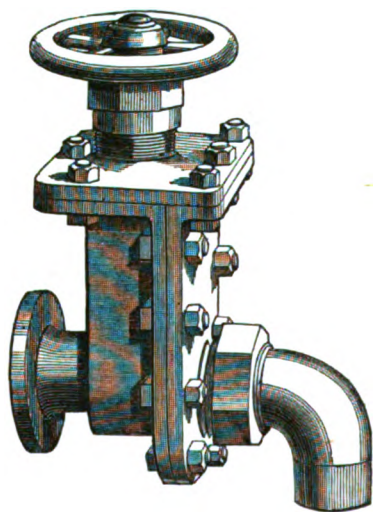
1½, 2, 2½, 3, 3½, 4, 5, 6, and 6½ inches.



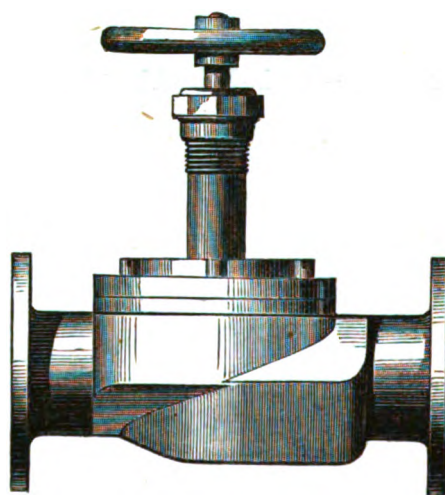
No. 289.



No. 289A.



No. 290.



Nos. 291 and 291A.

Nos. 292 and 292A.—**GUN-METAL SLUICE OR SLIDING VALVE**, for bulkheads of vessels built in compartments, with gun-metal frame and valve, screwed shank, and fly-nut for securing to bulkhead ; with wrought-iron spindle attached to valve, which spindle can be made any length, and passed through a metal plate on deck above, so as to open the sluice valve without going below.

$1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3 inches.

No. 293.—**GUN-METAL DECK PLATE**, for ditto.

$1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3 inches.

Nos. 294 and 294A.—**GUN-METAL SLUICE OR SLIDING VALVE**, as above.

$1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , and 3 inches.

No. 295.—**GUN-METAL DECK PLATE**, with spindle and handle for rising valve.





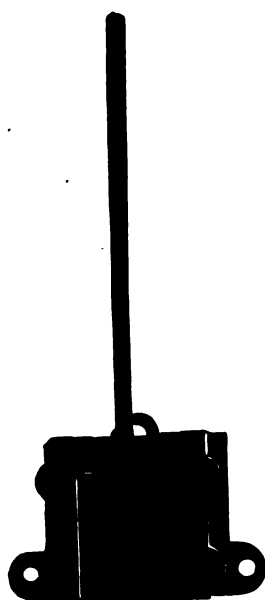
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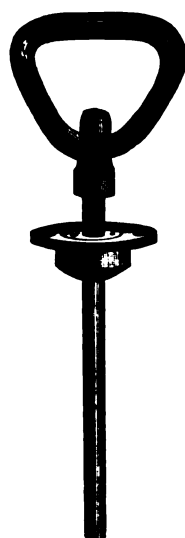
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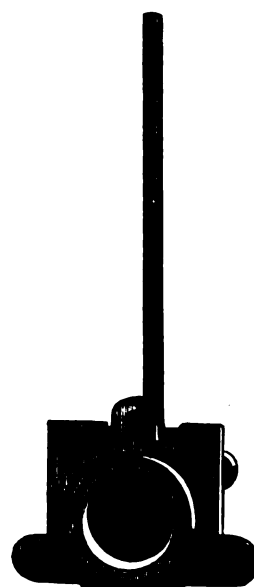
No. 292A.



No. 294.



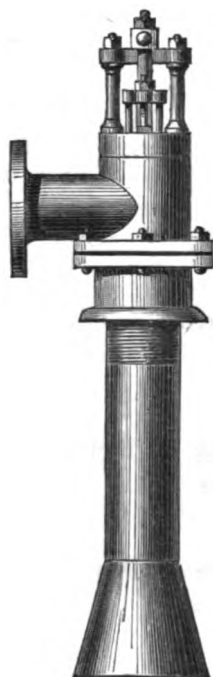
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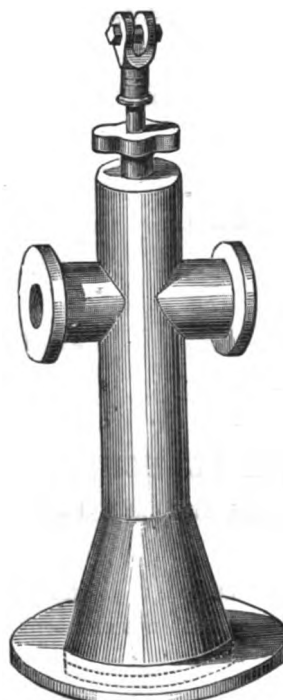
No. 294A.

No. 296.—**KINGSTON VALVE**, for inlet at ship's side, suitable for a wooden vessel;  
can be made of any length, or with one or two branches, as required.

No. 297.—Ditto ditto, for inlet at ship's side, suitable for an iron vessel;  
can be made of any length, or with one or two branches, as required.



No. 296.



No. 297.

No. 298.—**AIR VALVE** with cork float, for cisterns.

No. 299.—**BULKHEAD UNION**, with fly-nuts.

1,  $1\frac{1}{2}$ , 2, and  $2\frac{1}{2}$  inches.

No. 300.—**WASHER AND PLUG**, with fly-nut, for slate cisterns.

No. 301.—**TANK SCREW**, with nut and bent swivel.

1,  $1\frac{1}{2}$ , 2, and  $2\frac{1}{2}$  inches.

No. 302.            Ditto            with fly-nut, nut, and swivel.

1,  $1\frac{1}{2}$ , 2, and  $2\frac{1}{2}$  inches.

No. 303.            Ditto            with fly-nut, nut, and bent swivel.

1,  $1\frac{1}{2}$ , 2, and  $2\frac{1}{2}$  inches.

No. 304.—**SIDE FLANCH**, for connecting discharge pipe of Downton closet to ship's side, with nut and straight swivel.

No. 305.            Ditto            for connecting discharge pipe of Downton closet to ship's side, with nut and bent swivel, to suit iron vessel.

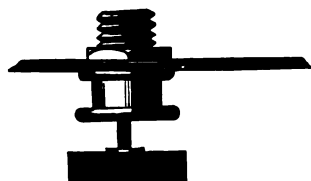
No. 306.            Ditto            Ditto            to suit wooden vessel.

No. 307.—**MALE COLLAR SCREW**, with tinned end and screwed cap, for tank rooms, &c.

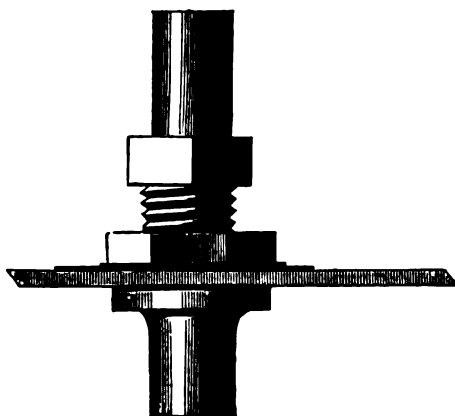
$1\frac{1}{2}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2, and  $2\frac{1}{2}$  inches.

No. 308.—**BOILER SCREW**, with fly-nut

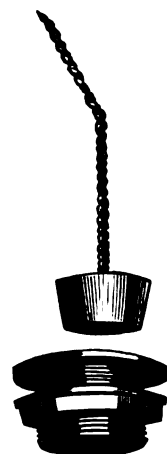
$\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{2}$ , and 2 inches.



No. 298.



No. 299.



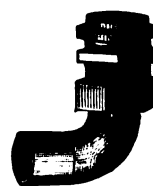
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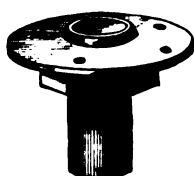
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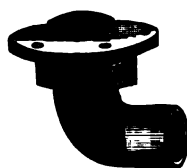
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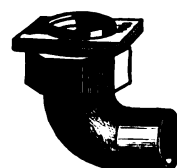
No. 303.



No. 304.



No. 305.



No. 306.

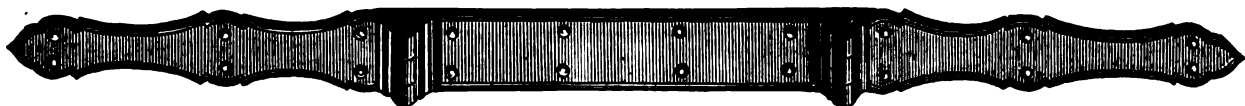


No. 307.



No. 308.

Nos. 309 to 316.—These are a few illustrations of bright brass hinges for skylights, companions, &c. We have numerous patterns of every description of both ornamental and plain hinges for all classes of ship work, also of quadrants, hasps, skylight fastenings, companion fastenings, necked bolts, straight bolts, scupper flaps, &c., which we could supply to order, or from customer's *own* patterns, on the most reasonable terms.



No. 309.



No. 310.



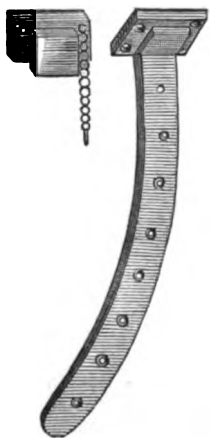
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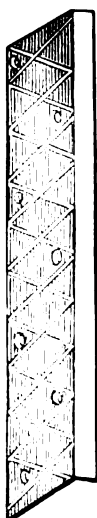
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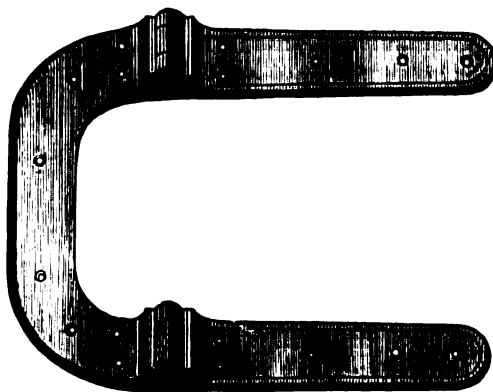
No. 313.



No. 314.



No. 315.



No. 316.

Nos. 317 to 327.—These are a few illustrations of bright brass hinges for skylights, companions, &c. We have numerous patterns of every description of both ornamental and plain hinges for all classes of ship work, also of quadrants, hasps, skylight fastenings, companion fastenings, necked bolts, straight bolts, scupper flaps, &c., which we could supply to order, or from customer's *own* patterns, on the most reasonable terms.

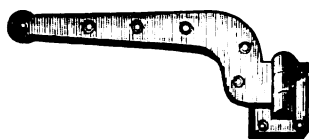




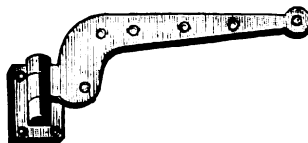
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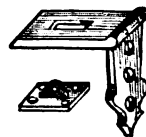
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No. 819.



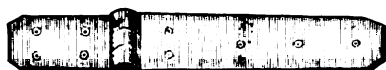
No. 819A.



No. 820.



No. 821.



No. 822.



No. 823.



No. 824.



No. 825.



No. 826.



No. 827.

T

Nos. 328 to 337.—These are a few illustrations of bright brass hinges for skylights, companions, &c. We have numerous patterns of every description of both ornamental and plain hinges for all classes of ship work, also of quadrants, hasps, skylight fastenings, companion fastenings, necked bolts, straight bolts, scupper flaps, &c., which we could supply to order, or from customer's *own* patterns, on the most reasonable terms.



No. 328.



No. 329.



No. 330.



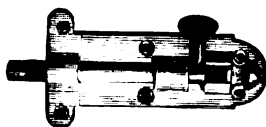
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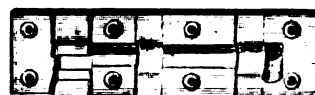
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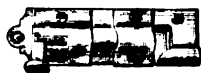
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No. 334.



No. 335.



No. 336.

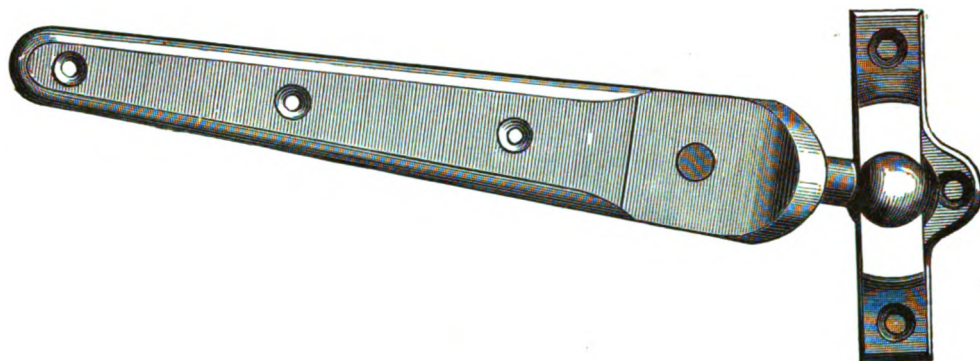


No. 337.

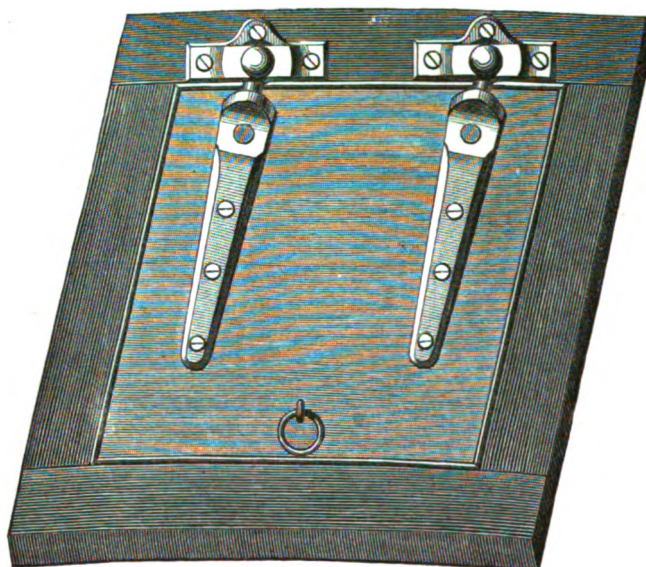
No. 338.—**NOTMAN'S PATENT BALL HINGE**, No. 338A illustrating a pair of these hinges fitted to a port, and as they appear when the lid is *closed*, and No. 338B as they appear when the lid is *open*.

These hinges are made on the principle of a ball-and-socket joint, and when they are fitted to ships' stern ports, they can be adjusted, in fixing, to the required bevil of the port, so that hinges from *one* pattern will answer for all the different *rakes* or bevils required, thus saving expense of different patterns for the hinges for each of the *stern* ports, which is often required when they are made in the ordinary manner.

These hinges are much approved of by the Admiralty, the Peninsular and Oriental Steam Navigation Company, Messrs. Wigram & Sons of Blackwall, and many other eminent shipbuilders.

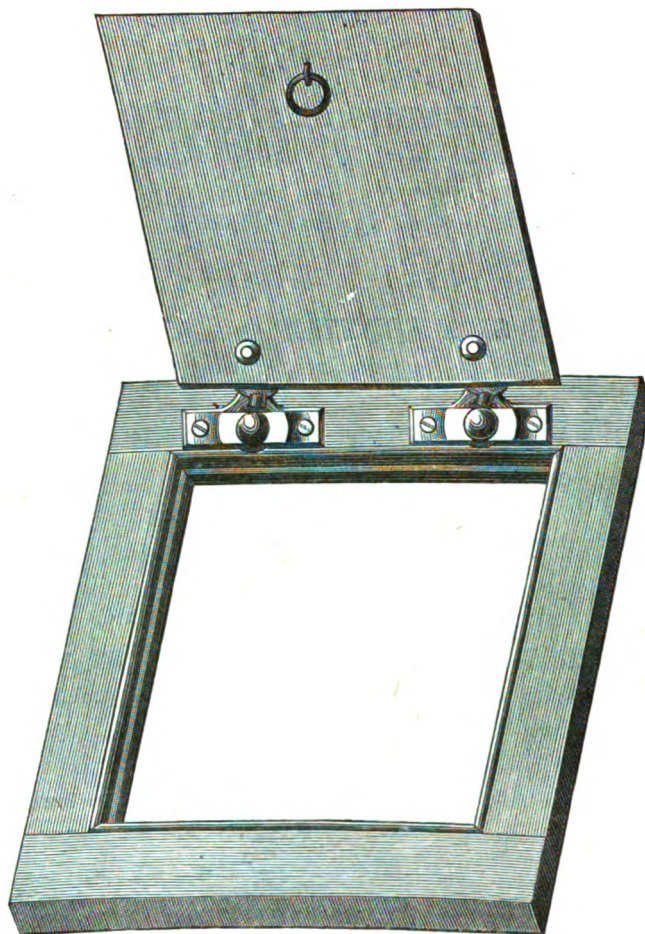


No. 338.



No. 338A.

No. 338B.—**NOTMAN'S PATENT BALL HINGE.** (*See preceding page.*)



No. 338B.

Nos. 339 and 339A.—**GUN-METAL SHIPS' SIDE SCUTTLE OR ILLUMINATOR**, with glass door, dead door, India rubber bearings, &c., complete, No. 339 showing the doors open, as the scuttle appears from the inside of the ship, and No. 339A showing them closed, as the scuttle appears from the outside of the ship.

No. 340.—**BRASS SHIPS' SIDE SCUTTLE** for iron ship, with glass door, dead door, India rubber bearings, &c., complete, showing both doors partly open.

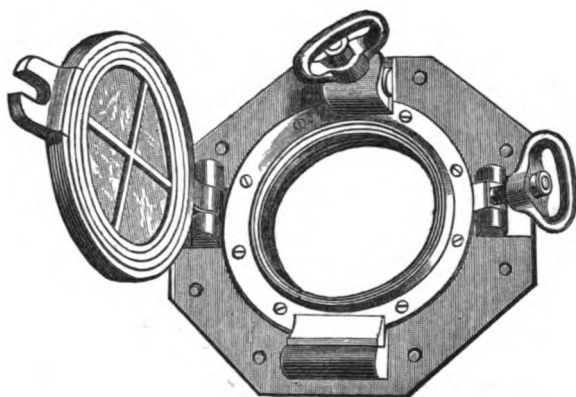
No. 341.—**LAING'S PATENT SHIPS' SIDE TUBE OR AIR SCUTTLE**, with sling, screw end, and nut complete.

No. 342.—**BRASS SHIPS' SIDE SCUTTLE** (small size), with glass door, India rubber bearings, &c., complete.

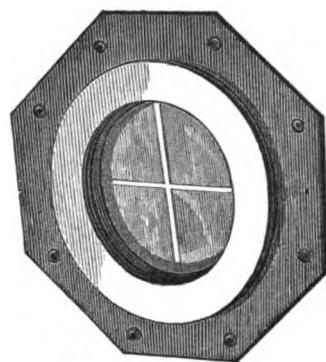
Nos. 343 and 343A.—**BRASS SHIPS' SIDE SCUTTLE**, suitable for wooden ships, No. 343 showing the scuttle as it appears from outside, and No. 343A as it appears from inside of the ship.

The above scuttles made any size, and the frames any shape, to order.





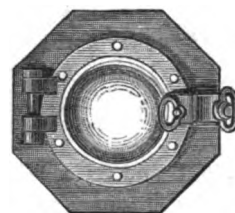
No. 339.



No. 339A.



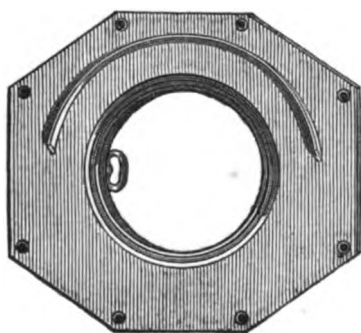
No. 340.



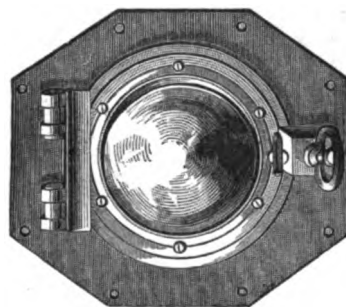
No. 342.



No. 341.



No. 343.



No. 343A.

U

No. 344.—**SHIPS' SIDE SCUTTLE OR ILLUMINATOR**, with glass door, India rubber bearings, &c., complete.

No. 345.—Ditto

Ditto

Ditto.

Nos. 346 and 346A.—Ditto

Ditto

with dead door, No.

346 showing as it appears from inside, and No. 346A as it appears from outside of ship.

Nos. 347 and 347A.—Ditto

Ditto

with circular iron frame,

glass door, India rubber bearings, &c., complete, No. 347 showing as it appears from outside, and No. 347A as it appears from inside of ship.

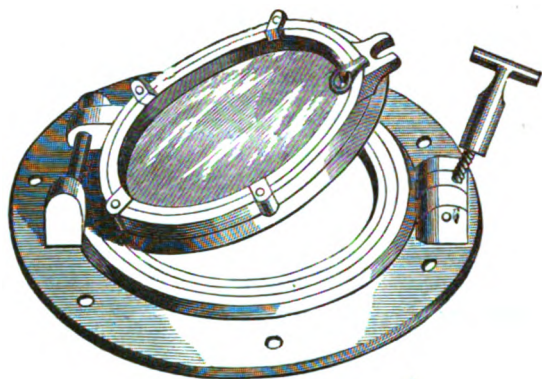
No. 348.—Ditto

Ditto

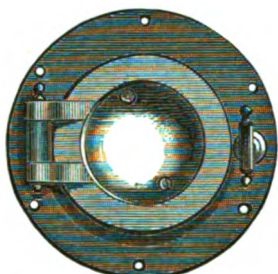
with octagon frame,

glass door, India rubber bearings, &c., complete.

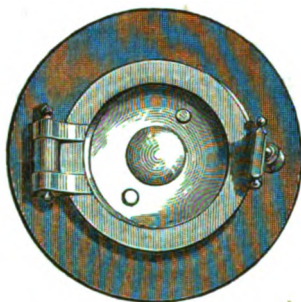
The above scuttles made any size, and the frames any shape, to order.



No. 344.



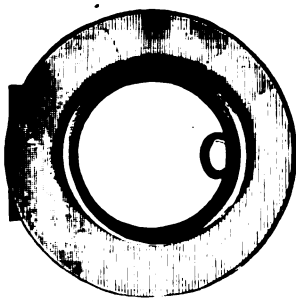
No. 345.



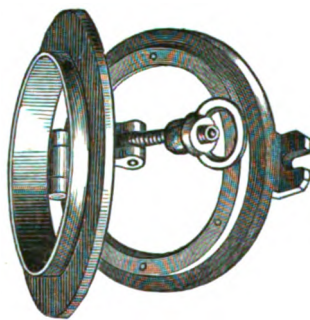
No. 346.



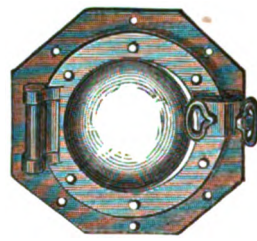
No. 346A.



No. 347.



No. 347A.



No. 348.

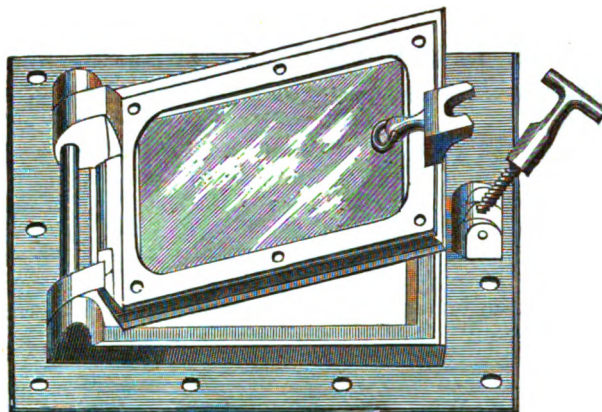
No. 349.—**SQUARE SHIPS' SIDE SCUTTLE**, for wooden vessel, with glass door,  
India rubber bearings, &c., complete.

No. 350.—**BRASS CIRCULAR SHIPS' SIDE SCUTTLE ON SQUARE FRAME**,  
for wooden vessel, with glass door, India rubber bearings, &c., complete.

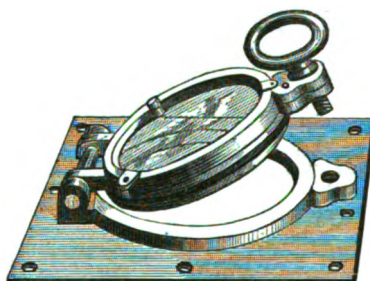
No. 351.—**BRASS SQUARE SHIPS' SIDE SCUTTLE**, for wooden vessel, with  
glass door, India rubber bearings, &c., complete.

No. 352.	Ditto	Ditto	Ditto.
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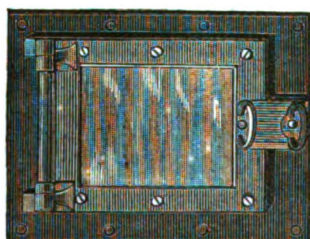
The above scuttles made any size, and the frames any shape, to order.



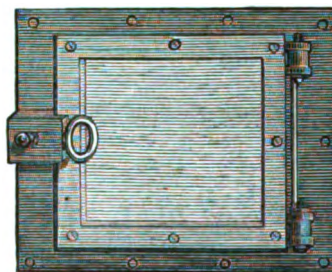
No. 349.



No. 350.



No. 351.



No. 352.

No 353.—**BRASS DECK LIGHT OR ILLUMINATOR**, with glass bull's-eye in screwed frame, and brass-screwed ventilator or grating.

This illustration shows the glass bull's-eye screwed in frame.

No. 354.—Ditto                      Ditto                      Ditto                      as above.

This illustration shows the brass ventilator or grating screwed in frame.

No. 355.—Ditto                      Ditto                      Ditto                      as above.

This illustration shows the brass-screwed blank cover screwed in frame.

No. 356.—**BRASS-HINGED DECK LIGHT OR ILLUMINATOR**, with bull's-eye, &c.

No. 357.—**BRASS-SCREWED VENTILATOR FOR DECK LIGHT.**

No. 358.                      Ditto                      Ditto                      Ditto.

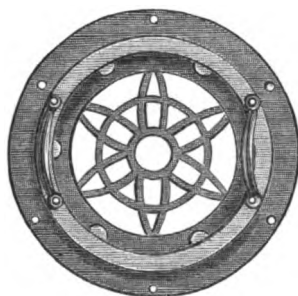
No. 359.—**BRASS STEERING WHEEL INDICATOR**, as supplied by us for Her Majesty's vessels, &c., to be secured to wheel spindle, to indicate the position of rudder.

No. 359A.—Another view of Ditto                      Ditto                      Ditto.

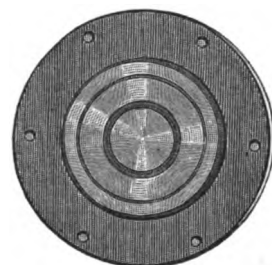
No. 360.—**COPPER DIAL PLATE FOR STEERING WHEEL INDICATOR**, lettered, gilded, varnished, &c.



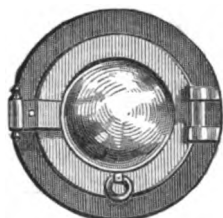
No. 353.



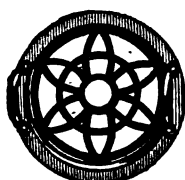
No. 354.



No. 355.



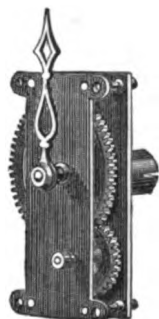
No. 356.



No. 357.



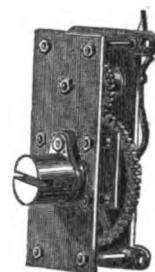
No. 358.



No. 359.



No. 360.



No. 359A.

No. 361.—**BRASS OR COPPER BINNACLE**, for ship's compass, with revolving shade, two lamps, &c., complete.

No. 362.—**BRASS OR COPPER LAMPS**, for above, spare.

No. 363.—**BRASS OR COPPER BINNACLE**, for ship's compass (Navy or Government pattern) with revolving shade, two lamps, &c., complete.

No. 364.—**BRASS OR COPPER LAMPS**, for above, spare.

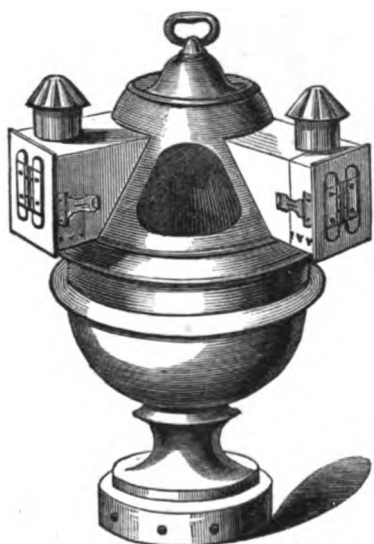




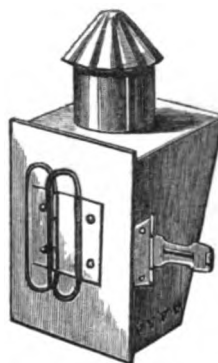
No. 361.



No. 362.



No. 363.



No. 364.

Nos. 365, 366, and 367.—**ROUGH OR POLISHED BELLS**, of any size or description, made to order, and for any purpose, including ships, yachts, steamers, &c., with or without ornamental frames, and engraved with builder's, owner's, or vessel's name, or otherwise, as required. Three illustrations only are shown, but many others kept.



No. 865.

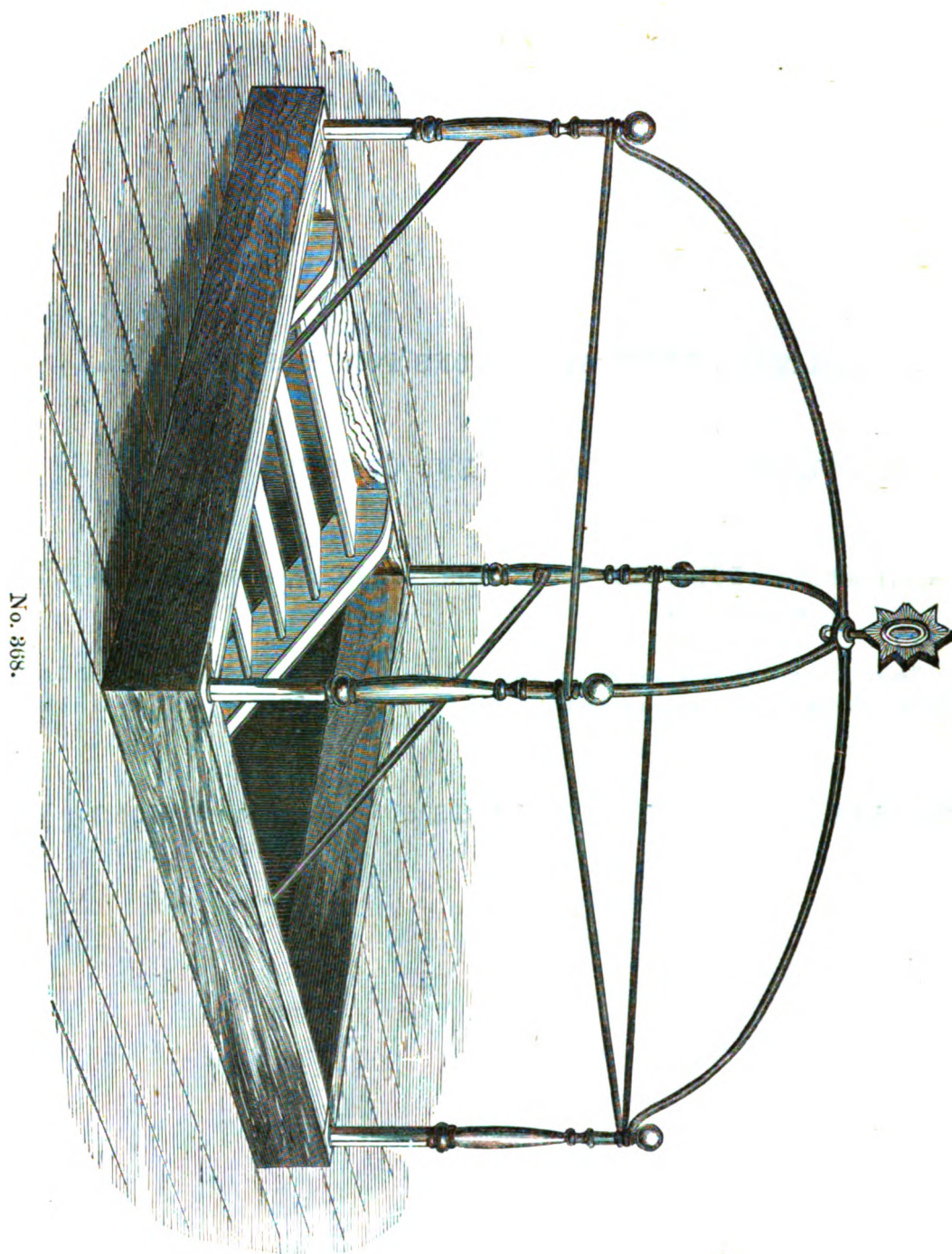


No. 866



No. 367.

**No. 368.—POLISHED BRASS STANCHIONS AND RAILS FOR CANOPY,**  
as supplied to Her Majesty's Navy, Foreign Governments, &c.



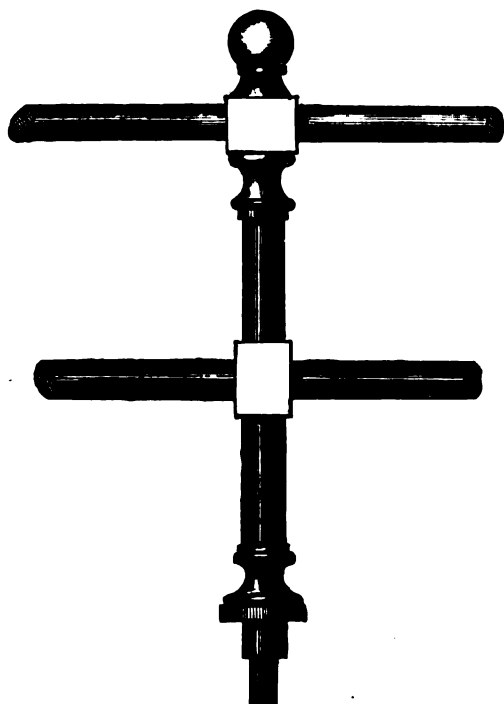
No. 369.—**POLISHED BRASS STANCHIONS FOR POOP**, with double rail.

No. 370.—**POLISHED BRASS SCROLL END OF HAND RAIL**.

Nos. 371 and 371A.—**POLISHED BRASS SPIDER HOOP**, with joint, belaying pins, &c., complete.

These illustrations only are shown, but we have patterns for all descriptions of hand rails, stanchions, spider hoops, awning hoops, &c., &c., required for ships, yachts, or steamers.

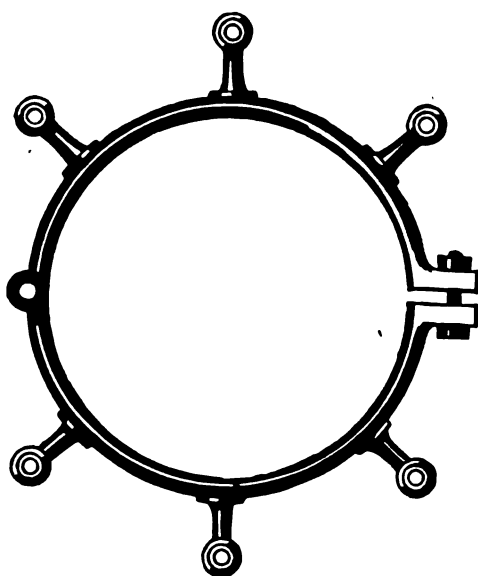
**POLISHED BRASS SKYLIGHT GUARDS OF ALL DESCRIPTIONS.**



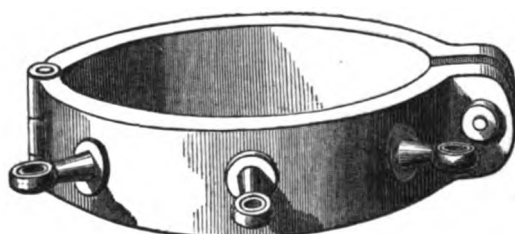
No. 369.



No. 370.



No. 371.



No. 371A.

## LAMPS FOR SEA-GOING SHIPS.

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No. 372.—**STARBOARD LAMP.**

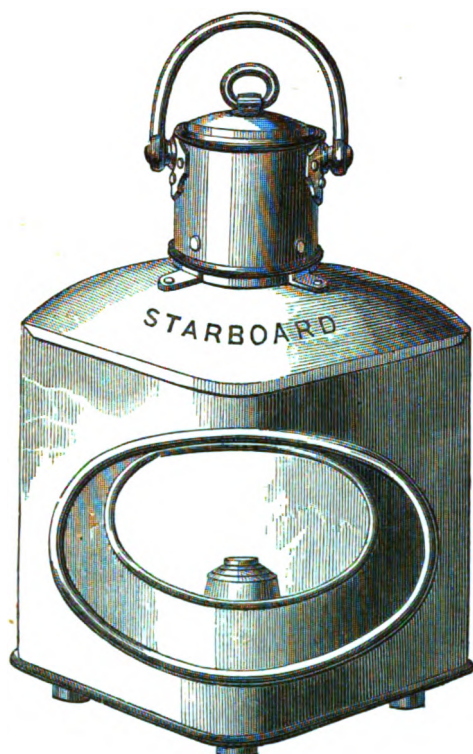
No. 373.—**PORT LAMP.**

No. 374.—**STORE-ROOM LAMP.**

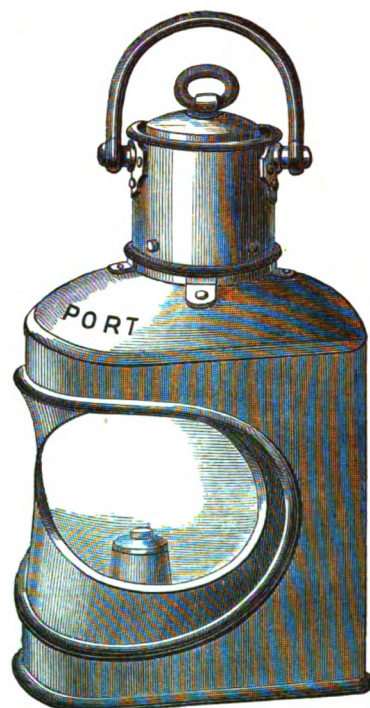
No. 375.—**SEAMAN'S SCONCE**, with silvered glass reflector.

No. 376.—**FIGHTING LANTERN** (Government pattern), with revolving shade, so as to instantaneously obscure the light, if required.

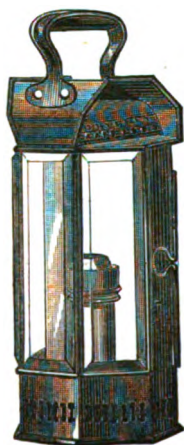




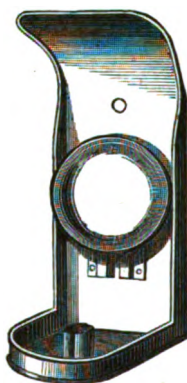
No. 372.



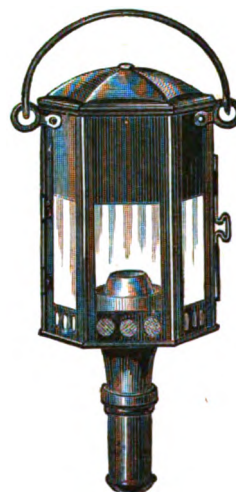
No. 373.



No. 374.



No. 375.



No. 376.

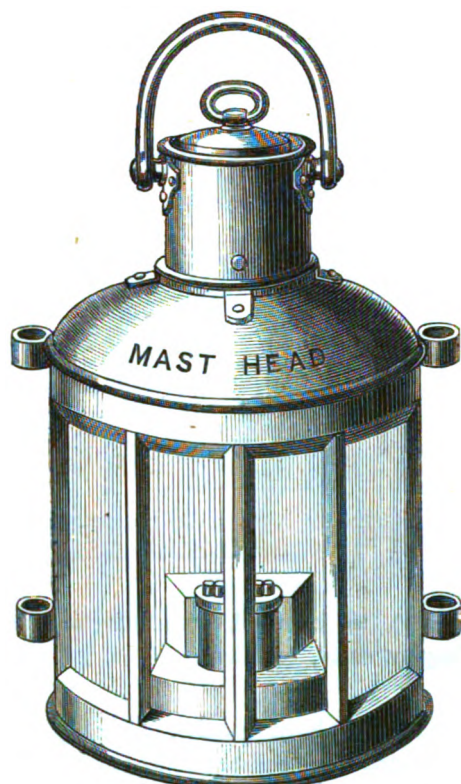
No. 377.—**MAST-HEAD LAMP.**

No. 378.—Ditto                      Ditto.

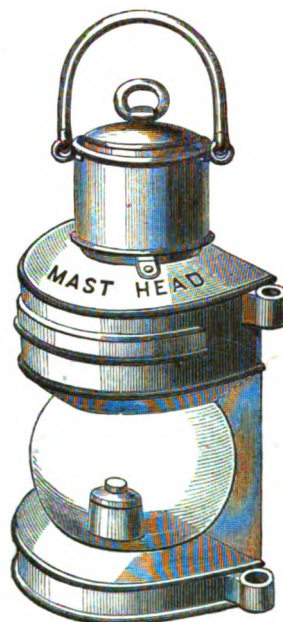
No. 379.—**HAND OR GENERAL PURPOSE LAMP**, rivetted together throughout, instead of soldered, thereby rendering it very strong and durable, and made so that if any of the glasses are broken, they can readily be replaced, by sliding a new piece in the groove, from the top of lamp.

No. 380.—**BRASS GUAGE LAMP**, with burner, &c., for engineers' use.

No. 381.—**IMPROVED SAFETY LAMP**, arranged so that on any attempt being made to expose the light, it is immediately extinguished, thus precluding any possibility of accident.



No. 377.



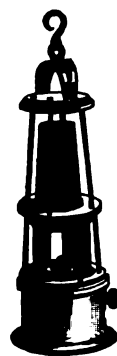
No. 378.



No. 379.



No. 380.



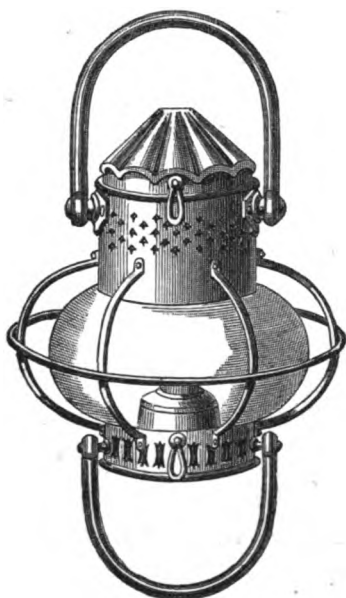
No. 381.

No. 382.—**CABIN LAMP:**

No. 383.—**ANCHOR LAMP.**

No. 384.—**MAGAZINE LAMP** (Government pattern), to burn oil, with reflector and glass chimney, mounted on polished mahogany stand, complete.

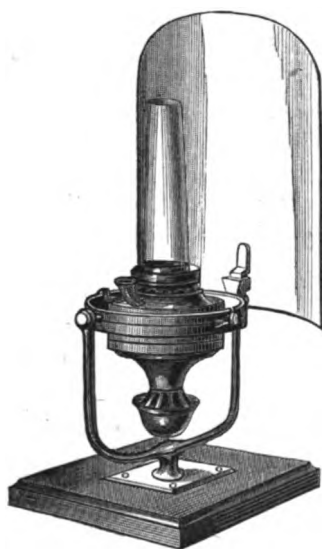
No. 385.—Ditto                      ditto                      ditto                      to burn candles, with spring, candlestick, reflector, and glass chimney, mounted on polished mahogany stand, complete.



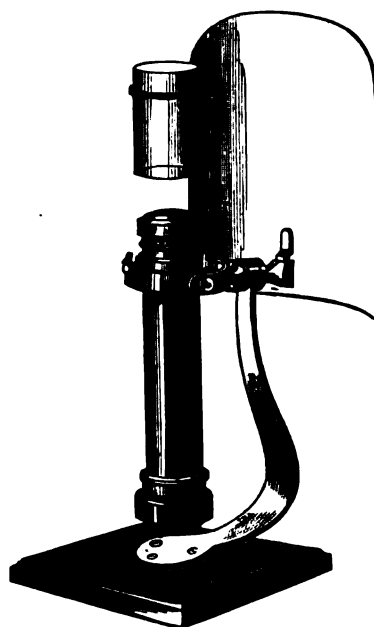
No. 382.



No. 383.



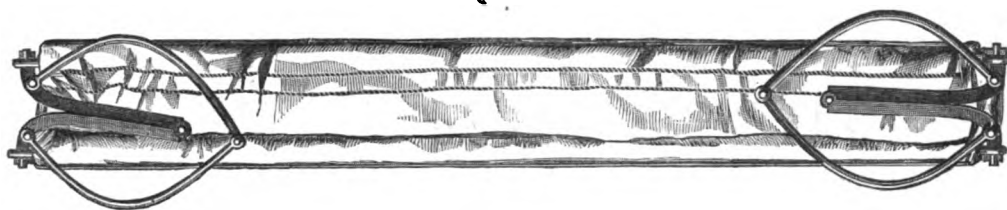
No. 384.



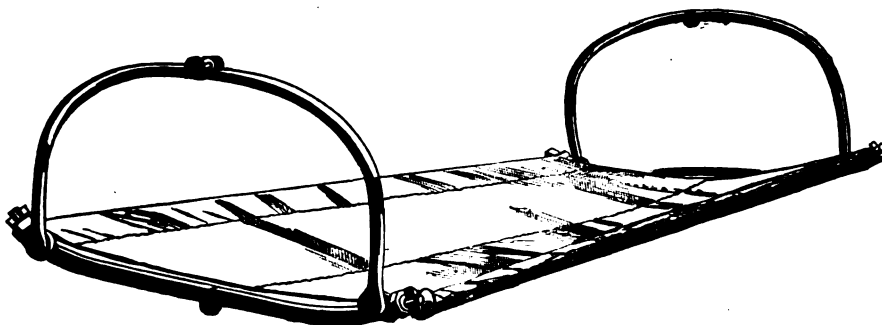
No. 385.

Nos. 386 and 386A.—**IMPROVED PORTABLE FOLDING SWINGING BED FRAME**, especially adapted for use on board ship, and largely used in Her Majesty's Navy, &c., No. 386 showing it folded up, ready for stowing away, and No. 386A showing it extended, ready to receive the bedding.

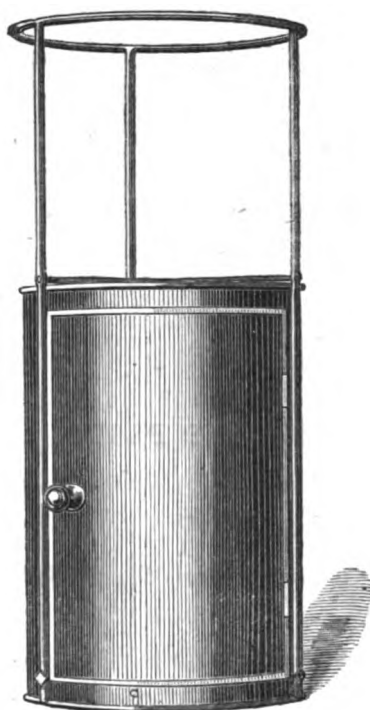
No. 387.—**IMPROVED WASH-STAND**, constructed of wrought iron, with sheet zinc enclosure, door, &c., especially adapted for use on board ship, and largely used in Her Majesty's Navy, &c.



No. 386.



No. 386A.



No. 387.

## FITTINGS FOR LIFE-BOATS.

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No. 388.—**BRASS PUMP** complete (bright).

No. 389.—**BRASS SELF-ACTING VALVE** (accurately adjusted for fixing in the bottom of boat), so that as soon as she ships a sea, it immediately clears her.

No. 390.—**BRASS PLUG VALVE** for bottom of boats.

No. 391.—**BRASS YOKE.**

No. 392.— <b>BRASS ROWLOCK AND PLATE.</b>		If galvanized iron ...
No. 393.—Ditto                      ditto                      ditto.		Ditto                      ditto ...
No. 394.—Ditto                      ditto                      ditto.		Ditto                      ditto ...

No. 395.—**BRASS PLUG.**

No. 396.—**BRASS SPANNER** for ditto.

No. 397.—**BRASS PLUG.**

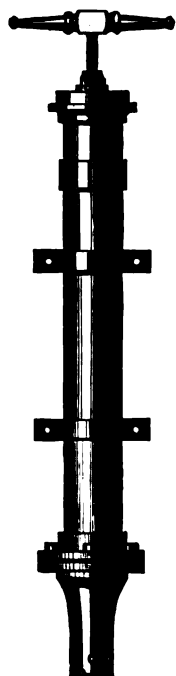
No. 398.—**BRASS SPANNER** for ditto.

No. 399.—**BRASS THUMB-SCREW AND PLATE.**

No. 400.—**BRASS SHEET SLIP** for boats.

We have many patterns of rowlocks, yokes, &c., besides the illustrations shown.





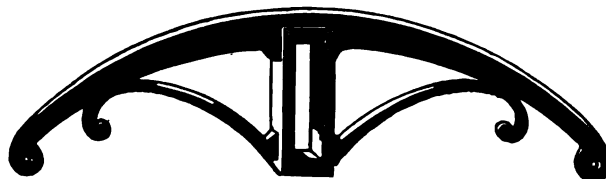
No. 388.



No. 389.



No. 390.



No. 391.



No. 392.



No. 393.



No. 394.



No. 395.



No. 396.



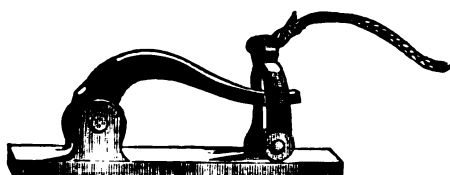
No. 397.



No. 398.

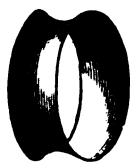


No. 399.



No. 400.

Nos. 401 to 414.—**THIMBLES, BOAT-HOOKS, SHACKLES, &c.**, made as required.



No. 401.



No. 402.



No. 403.



No. 404.



No. 405.



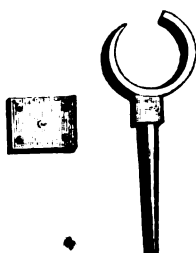
No. 406.



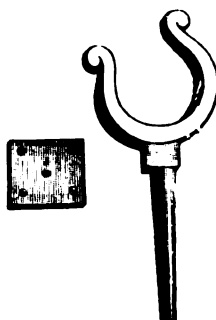
No. 407.



No. 408.



No. 409.



No. 410.



No. 411.



No. 412.



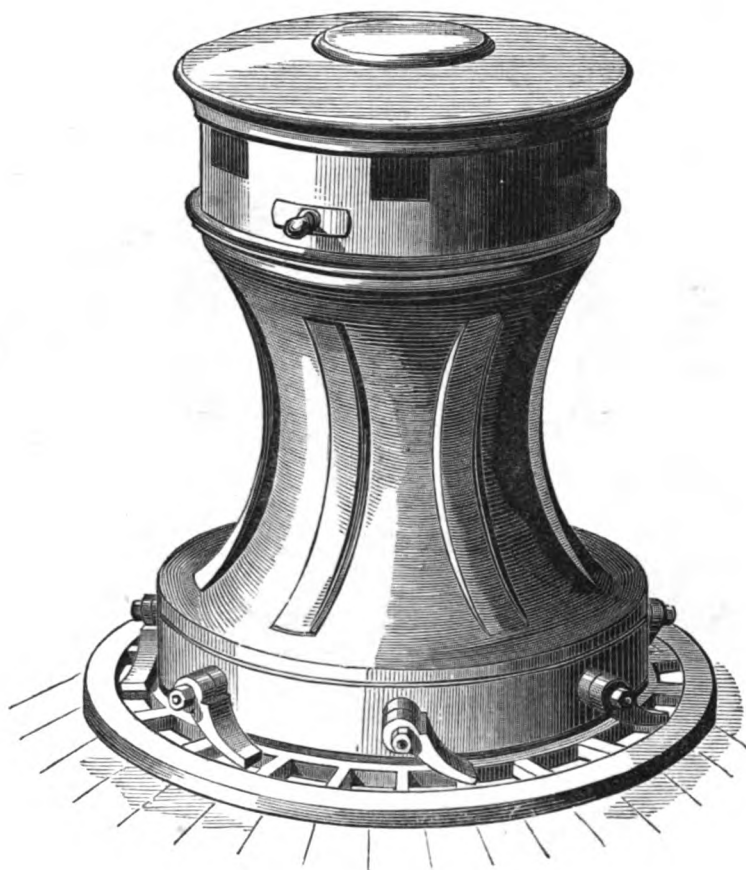
No. 413.



No. 414.

No. 415.—**PATENT IRON CAPSTAN.**

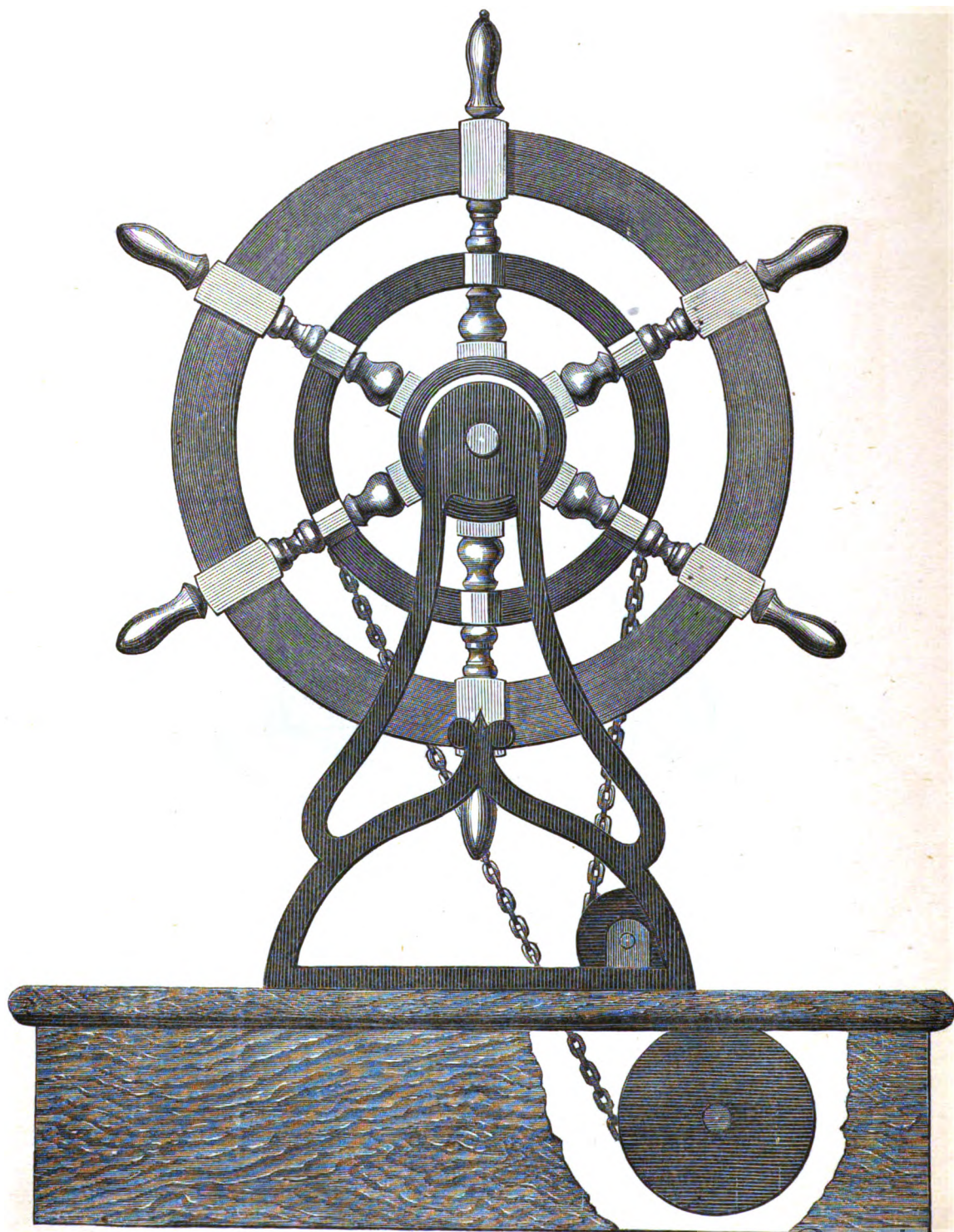
This is very powerful and efficient.



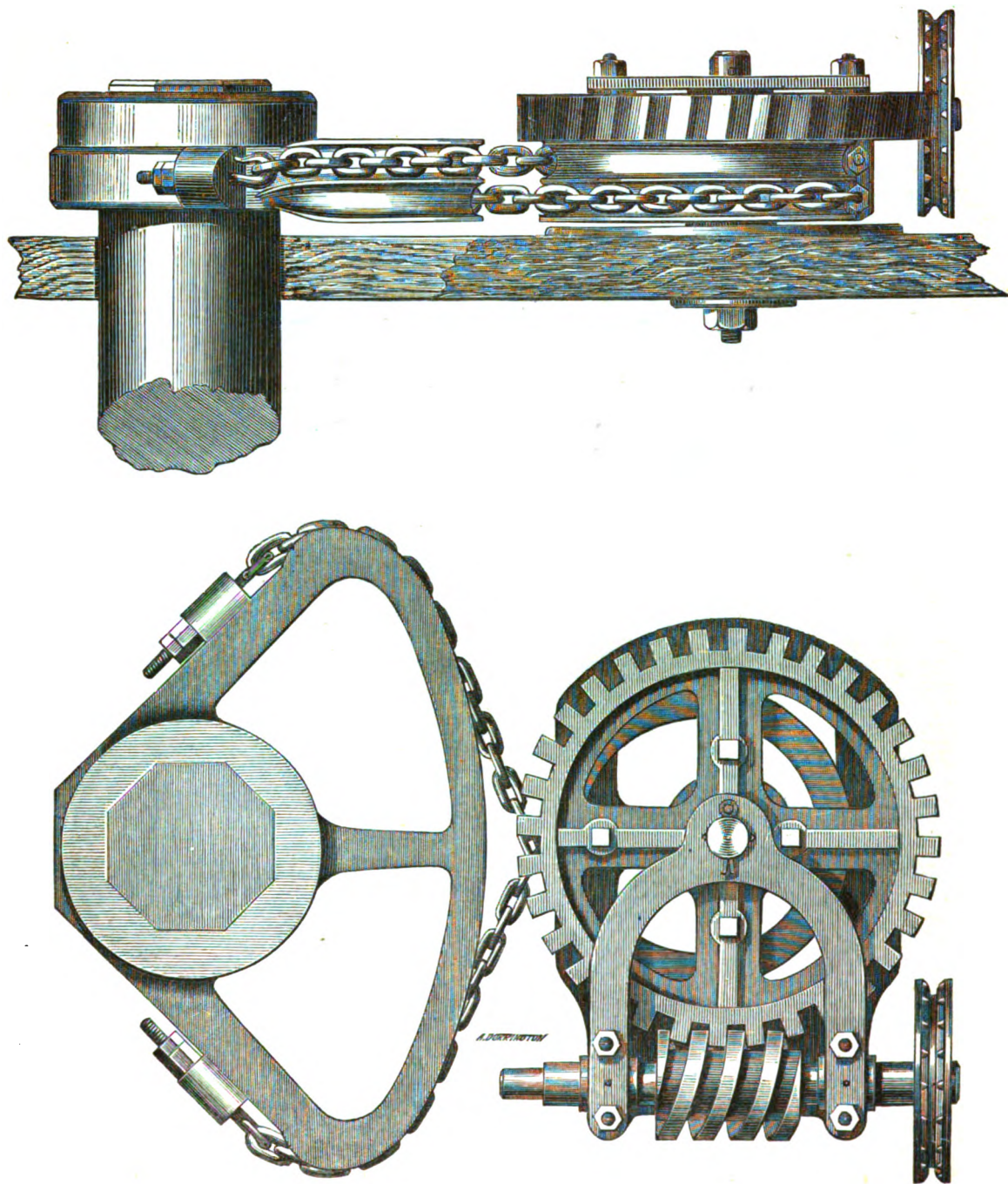
No. 415.

## PATENT STEERING

Can be highly





**GEAR FOR SHIPS.****recommended.****No. 416.**

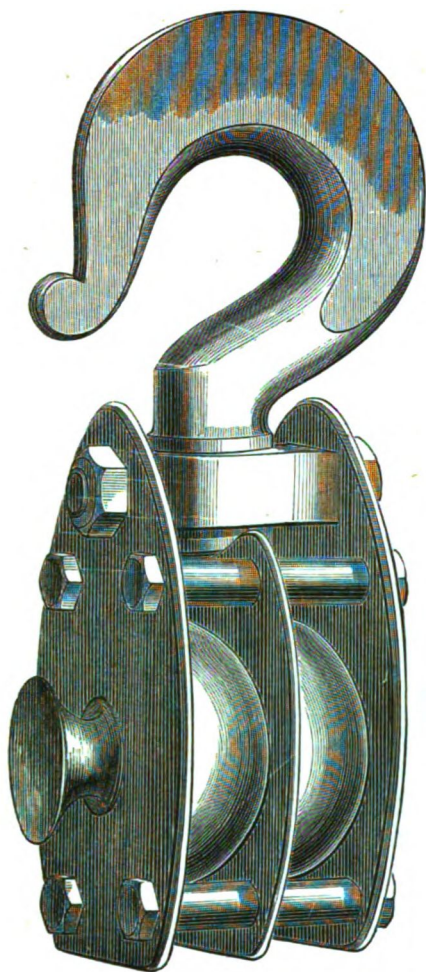
Nos. 417 and 417A.—**WROUGHT-IRON BLOCKS**, with iron sheaves.

In.	Snatch.	Single.	Double.	Treble.
3	...	...	...	...
3½	...	...	...	...
4	...	...	...	...
4½	...	...	...	...
5	...	...	...	...
6	...	...	...	...
7	...	...	...	...
8	...	...	...	...

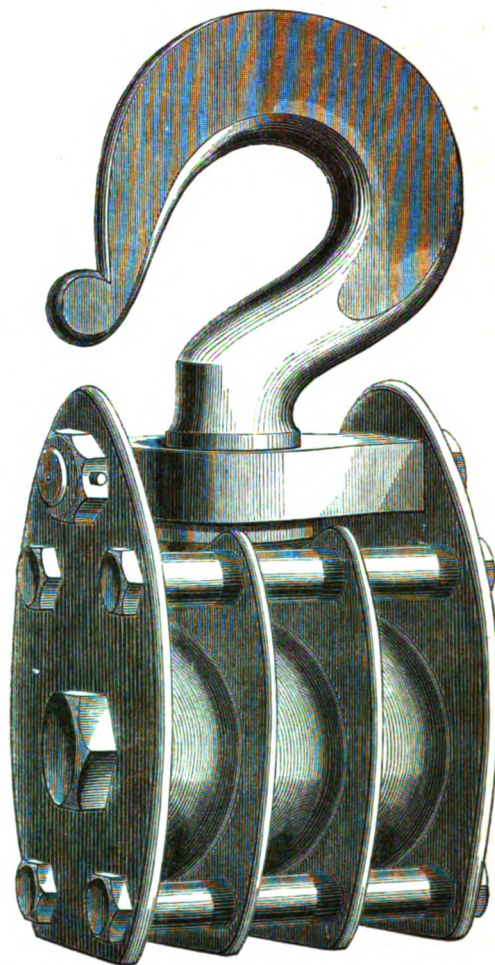
Ditto                      ditto                      ditto,                      with brass sheaves.

In.	Snatch.	Single.	Double.	Treble.
3	...	...	...	...
3½	...	...	...	...
4	...	...	...	...
4½	...	...	...	...
5	...	...	...	...
6	...	...	...	...
7	...	...	...	...
8	...	...	...	...





No. 417.



No. 417A.

▲ ▲

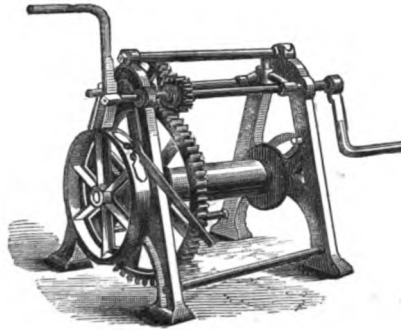
No. 418.—**HOISTING CRAB.**

Single Purchase, to lift 1 ton	...	...	...	...
" " " 2 "	...	...	...	...
" " " 4 "	...	...	...	...
Double Purchase, to lift 2 tons	...	...	...	...
" " " 4 "	...	...	...	...
" " " 6 "	...	...	...	...
" " " 8 "	...	...	...	...
" " " 12 "	...	...	...	...

If with break attached, extra ... ..  
 To lift with pulley blocks.

No. 419.—**HALEY'S SCREW JACK.**

Height when down 2 ft.	5 in.	will lift	2 tons	...
" " 2 "	7 "	"	4 "	...
" " 2 "	8 "	"	6 "	...
" " 2 "	10 "	"	8 "	...
" " 3 "	1 "	"	12 "	...
" " 3 "	3 "	"	16 "	...
" " 3 "	4 "	"	20 "	...



No. 418.



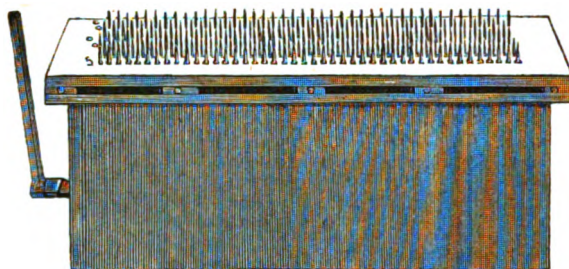
No. 419.

Nos. 420 and 420A. — **MACHINE FOR MOULDING SHEATHING NAILS, SLATING NAILS, HOB NAILS,** and any other description of cast nails.

This Machine is to supersede the old plan of pricking the nails by hand. It will mould from 600 to 1,600 nails (according to size) by simply raising a lever.

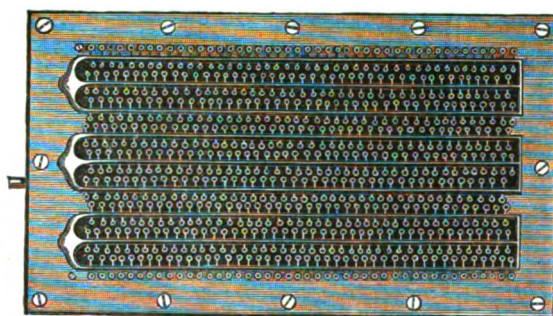
We have made them for Her Majesty's Dockyards, Messrs. Muntz and Co., of Birmingham, and numerous other celebrated makers of nails, from any of whom, testimonials as to their efficiency, &c., can be obtained.

Elevation.



No. 420.

Plan.



No. 420A.

No. 421.—**STRONG COPPER TEA-KETTLE.**

2, 3, 4, 5, 6, 7, and 8 pints.

No. 422.—Ditto                      ditto                      ditto.

2, 3, 4, 5, 6, 7, and 8 pints.

No. 423.—**STRONG COPPER HELMET COAL-SCUTTLE,** with ornamental  
mountings.

No. 424.—**STRONG COPPER TALLOW KETTLE,** for engineers' use.

No. 425. — **STRONG COPPER FLAT BOTTOM COAL-SCUTTLE,** with  
mountings.



No. 421.



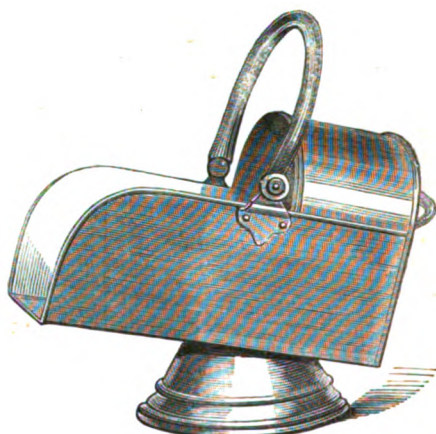
No. 422.



No. 423.



No. 424.



No. 425.

**No. 426.—COPPER IMPERIAL WINE MEASURE.**

$\frac{1}{2}$  gill, 1 gill,  $\frac{1}{2}$  pint, 1 pint, 1 quart,  $\frac{1}{2}$  gallon, 1, 2, 3, and 4 gallons.

**No. 427.—COPPER BOWL FUNNEL.**

1, 2, 3, and 4 gallons.

**No. 428.—COPPER SPIRIT PUMP,** with brass foot valve and bucket.**No. 428A.—COPPER OIL PUMP,** with wooden foot valve and bucket.**No. 429.—COPPER HYDROMETER POT.**

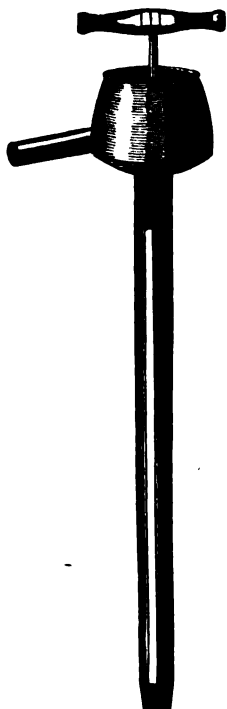




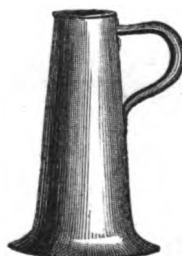
No. 426.



No. 427.



Nos 428 and 428A.

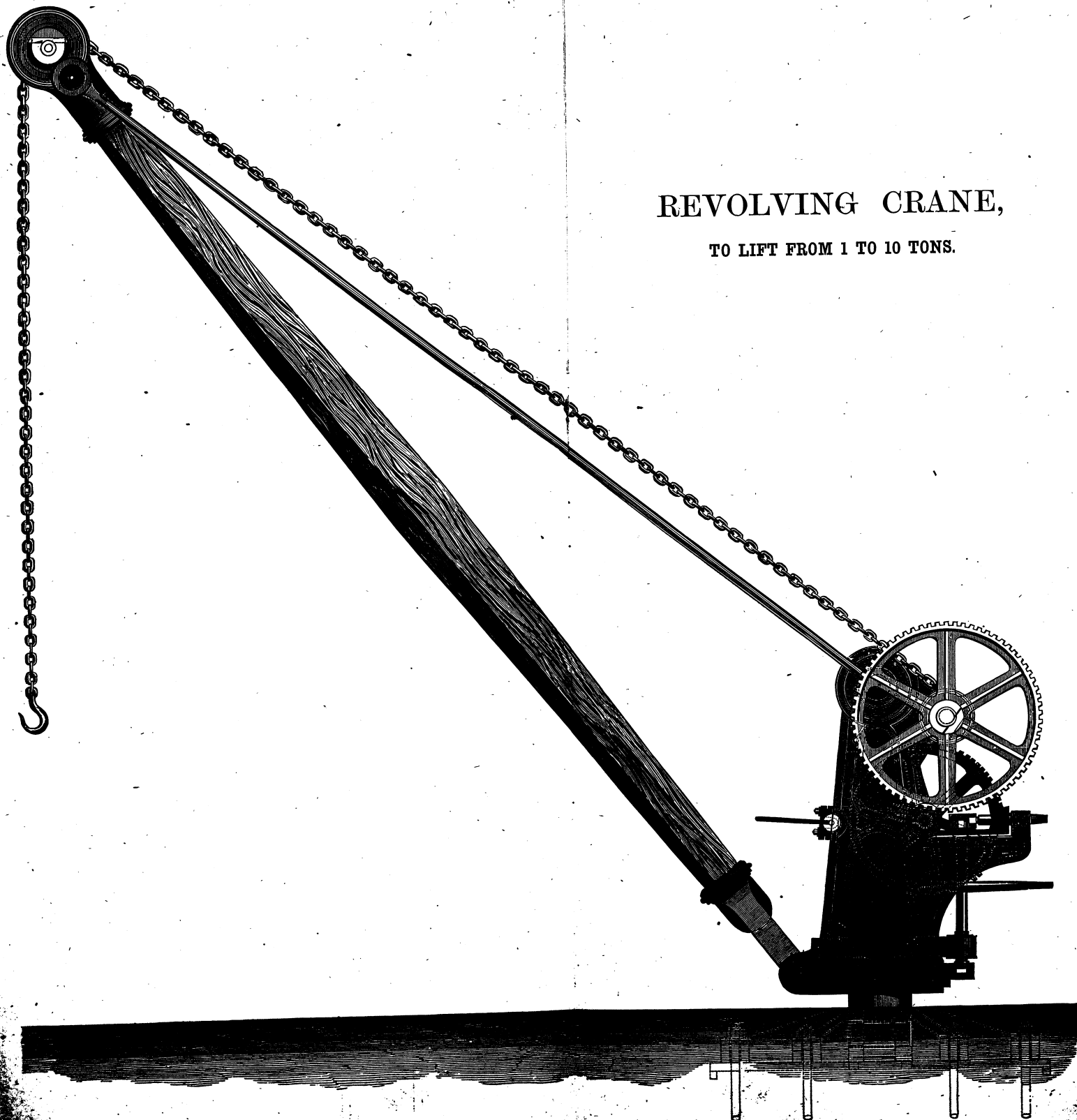


No. 429.



# REVOLVING CRANE,

TO LIFT FROM 1 TO 10 TONS.





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22 CHANCERY LANE W.C.

